

SECOND EDITION

GYNECOLOGY & OBSTETRICS

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INSTRUMENTS

QUESTIONS
& MODEL
ANSWERS



VISIT...

LANZAROTE
Caliente.COM

To the one who deserves so much

To the one who had suffered a lot to support me and give me hope & strength to finish this book.

To my wife, I dedicate all the effort and hard work lying behind this book, hoping that, one day, I could pay her back what she has done for me.

ACKNOWLEDGEMENT

The author is greatly indebted to his students for their precious contribution to this text.

Special thanks are due;

Hany Ramadan

Mazen Abd El Rasheed

For drawings

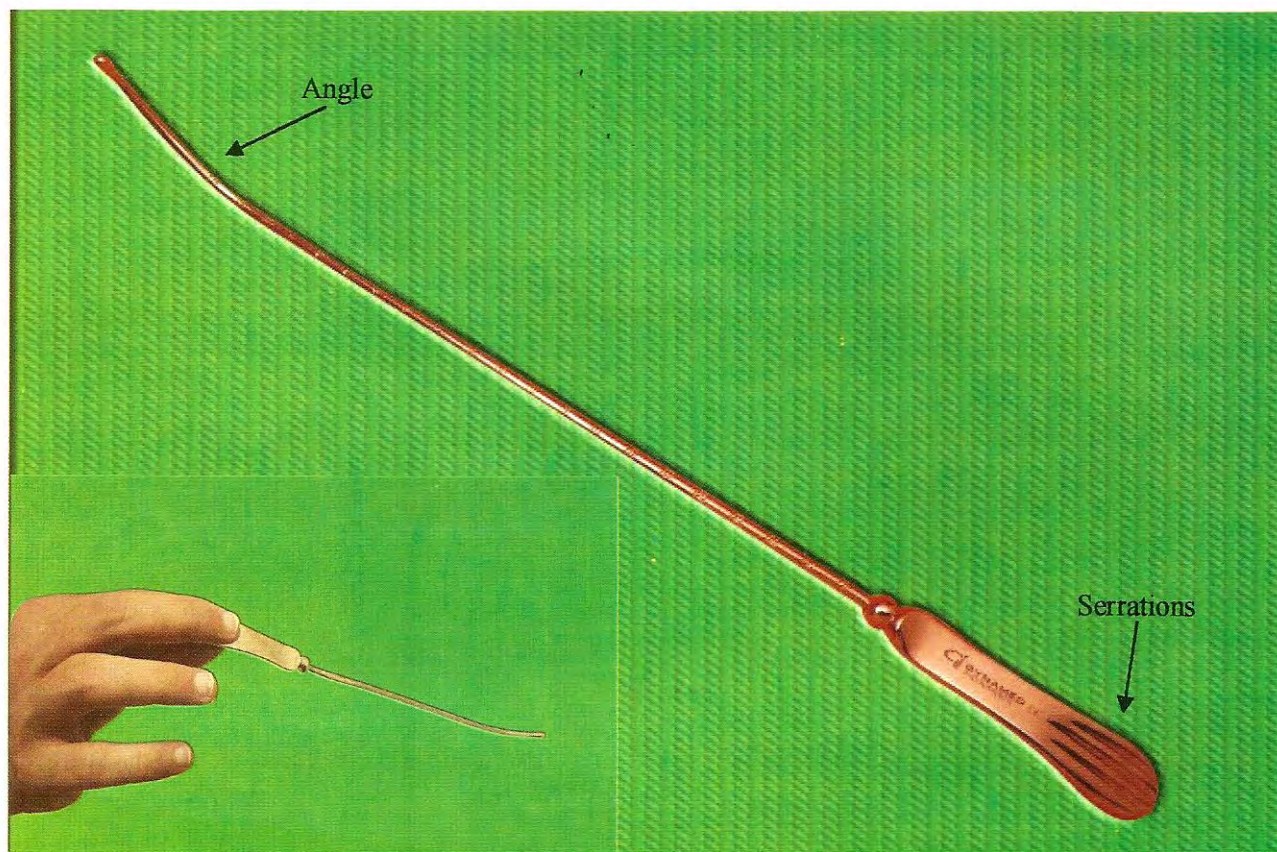
For computer design & arrangement

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UTERINE SOUND



Q. How to grasp the instrument?

Between the index & thumb loosely

Q. What is the unit used in measurement ?

Cm , others in inches.

Q. What is the angle of the sound ?

The angle of the sound = the angle between cervix and uterus (angle of flexion).

Q. Site of the angle of the sound?

About 2 ½ cm from its tip.

*** Q. What is its diameter ?**

3-4 mm.

~ so no anaesthesia needed

Q. Why the sound has spherical tip & what is it's diameter ?

To avoid perforation (about 4 mm in diameter)

Q. Why the handle is serrated in one side ?

To know the direction of the sound inside the uterus.

- If anterior → AVF uterus.
- If posterior → RVF uterus.

Indication

- 1) measure Length of cx canal
- 2) detect ut cavity Position of uterus

AVF
RVF

*** Q. What is the commonest complication ?**

Infection.

+ 2nd Common Perforation

Q. Which material the uterine sound is made of ?

The sound is made of either metal Copper (malleable) or stainless steel (rigid).
The malleable one is preferable as it can be shaped according to uterine palpation.

Complications of uterine sound:
infection @
Perforation @

SOUNDING OF THE UTERUS

TECHNIQUE

Introduced till the 1st resistant (of the internal os) to measure the length of cervical canal, then pushed till the 2nd resistant (at the fundus) to measure the length of the uterine cavity.

INDICATIONS OF UTERINE SOUND

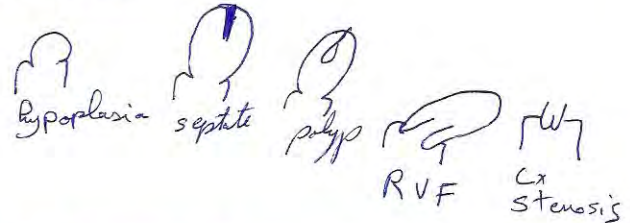
A. THERAPEUTIC INDICATIONS

Cutting of intra-uterine adhesions.

B. DIAGNOSTIC INDICATIONS

1. Diagnosis of :

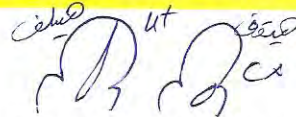
- Intra-uterine septum.
- Endometrial polyp.
- Uterine hypoplasia (uterine index = $\frac{3}{4}$).
- Cervical stenosis.
- R.V.F. position of the uterus.



N.B. The uterine index = $\frac{\text{Total length of the uterus} - \text{length of cervical canal}}{\text{Length of cervical canal} \times 2}$ (normally = 1).

2. Differentiation between:

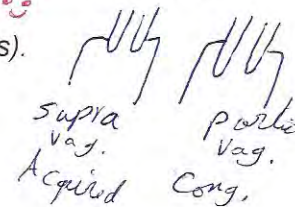
- * - Endometrial or cervical polyp.
- * - Chronic inversion of the uterus and endometrial polyp.



$y < 1$
= Hypoplasia

3. Detection of :

- Cervical and uterine length before dilatation and curettage operation.
- Retained foreign body e.g. I.U.D. $\Rightarrow$ click sound.
- * - Elongation of cervix (supra-vaginal part or portiovaginalis).



CONTRAINDICATION

1. Soft uterine wall.
2. Cervical or uterine infection.
3. Suspected pregnancy.

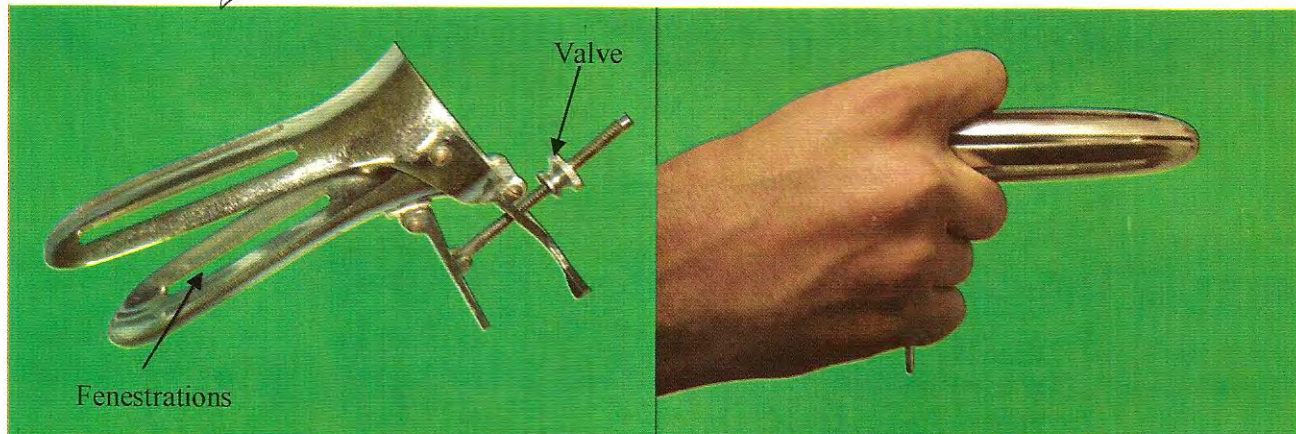
COMPLICATIONS

1. Ascending infection.
2. Perforation.
3. Disturbance of possible pregnancy.

CUSCO VAGINAL SPECULUM

(FENESTRATED)

لید Grove منی ۲۹۸

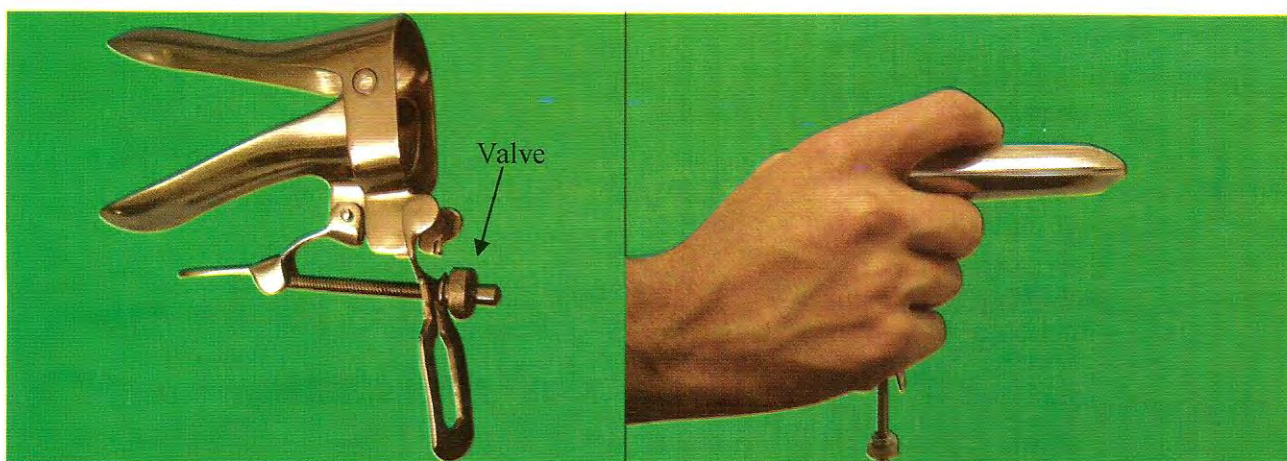


* Q. Why fenestrated ?

To visualize anterior and posterior vaginal walls for diagnosis of vesico-vaginal fistula.

CUSCO VAGINAL SPECULUM

(NON- FENESTRATED)



Q. What is its value ?

→ Indications?

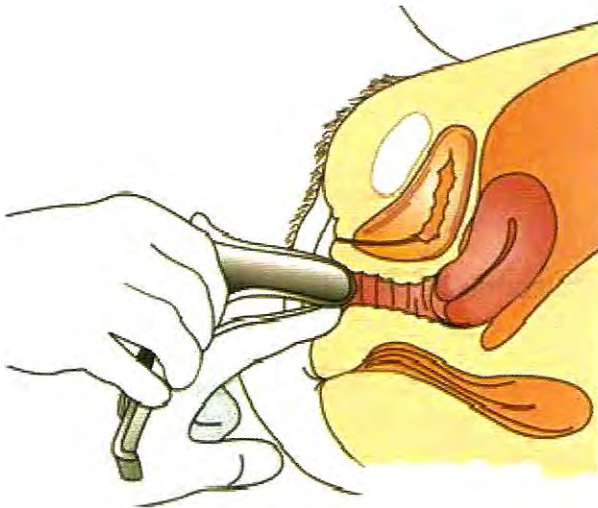
- Routine vaginal examination to visualize lateral vaginal walls and cervix.
- Other uses: In minor procedures.
e.g. I.U.D. application, Cauterization etc.

Q. What is the measures before application ?

1. No need of anaesthesia.
2. Sterilization of speculum.
3. Lubrication of speculum by antiseptic solution.
4. The speculum is held closed between the index & middle fingers of the right hand.
5. Separation of labia by the thumb & index fingers of the left hand.

Q. How to introduce it in the vagina ?

1. Insertion of the speculum obliquely in the vaginal opening (45°).
2. 2 cm deep to vaginal opening , the speculum is turned to horizontal plane with anterior blade anteriorly & the posterior one posteriorly with still closed blades.
3. The blades are opened to expose the cervix.
4. Fixation of speculum in position by its fixation screw.



Q. Why not introduced in vagina horizontal ?

Because the vulval introitus is vertical so, become very painful.

Q. Why not introduced in vagina vertical ?

To avoid urethral injury.

Q. How to be removed (withdrawal) from the vagina & why ?

Semi closed to avoid injury of vagina.

Q. What it's disadvantage ?

No visualization of the anterior & posterior vaginal walls.

Q. What to do ?

Use fenestrated Cusco vaginal speculum.

Q. What are the conditions in which lubricants e.g. gel, paraffin oil. contraindicated during insertion of the speculum (i.e. dry speculum) ?

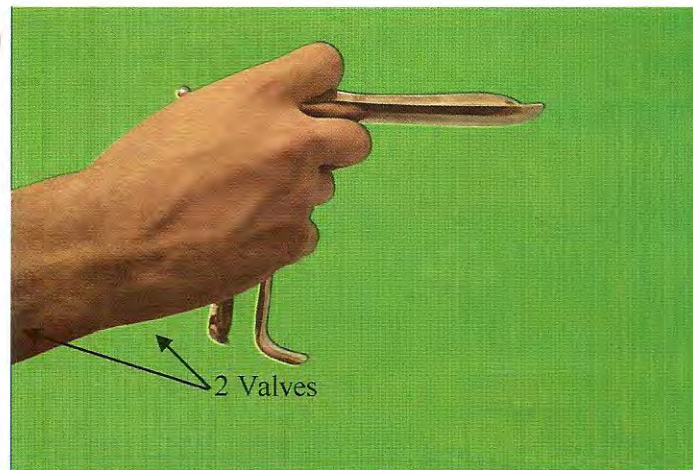
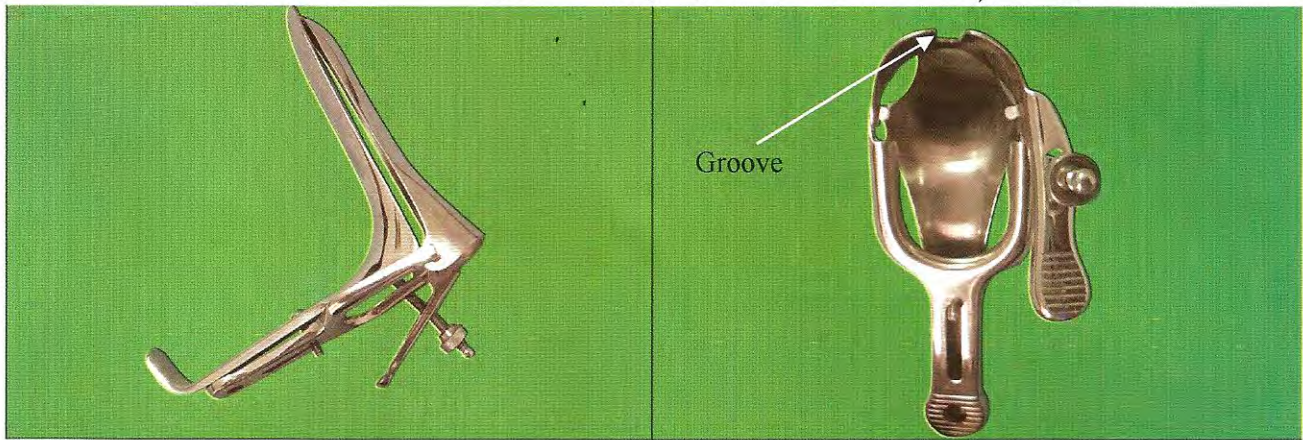
- Any vaginal smear (cytology).
- Postcoital test.

★Q. What are the complications may occur ?

- Infection.
- Vaginal laceration.

GRAVE'S VAGINAL SPECULUM

خارج دجود Groove



Q. Why there are 2 valves ?

For more distal parallel expansion (*better exposure*).

Q. Why the posterior plate is longer than the anterior plate ?

The posterior vaginal wall is longer than anterior (*more anatomical*).

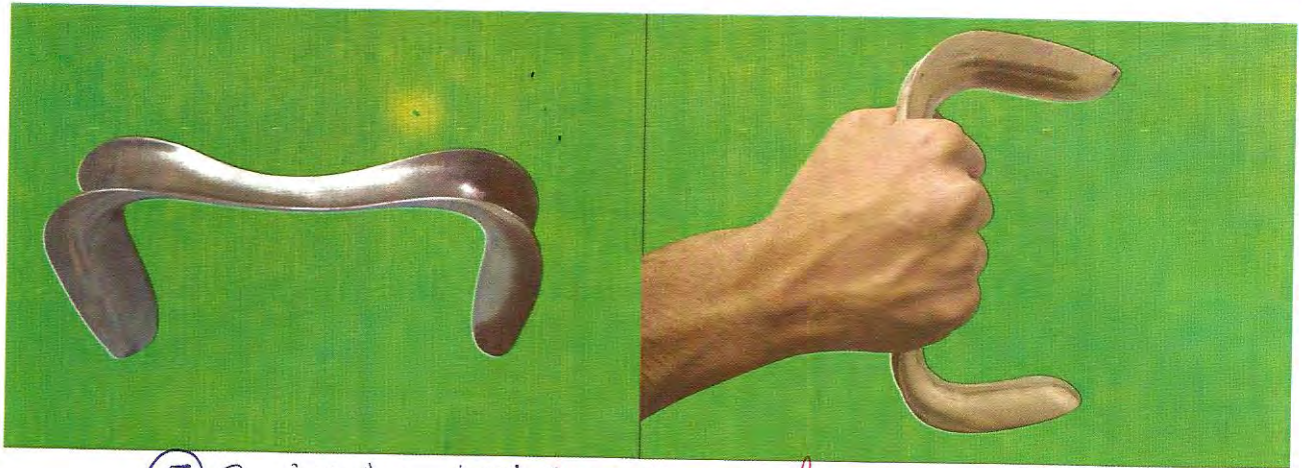
Q. What is the importance of the groove ?

Displace the volsellum to clear my field & visualize the cervix while examination.

Q. What are the other uses of this speculum ?

As Sim's speculum (*by turning it on itself*).

SIM'S SPECULUM



⑤ @ sim's speculum

Indications

Position

operation = Sausurization

Hohner = Post Coetal test

Endo Coagulator → Cuttery

★ Q. What are its uses ?

- Visualization of anterior vaginal wall for diagnosis of vesico-vaginal fistula.
- Used as posterior vaginal wall retractor for exploration of vagina and cervix after vaginal delivery.
- During surgical repair of fistula.

★ Q. Why it has 2 ends ?

Because there are different sizes of vagina.

- Small end for small vagina.
- Large end for large vagina.

Q. Why there is a groove ?

- Drainage for any discharge & urine.
- For more vaginal expansion (to allow air entry).

Q. What is the position of the patient ?

Sim's position.

Q. What's the importance of using a pillow under the waist of the patient ?

Upwards displacement of intestine results in -ve intra-abdominal pressure that leads to vaginal insufflation & so better exposure.

Q. How to be applied ?

The patient lies in Sim's position (without anaesthesia).

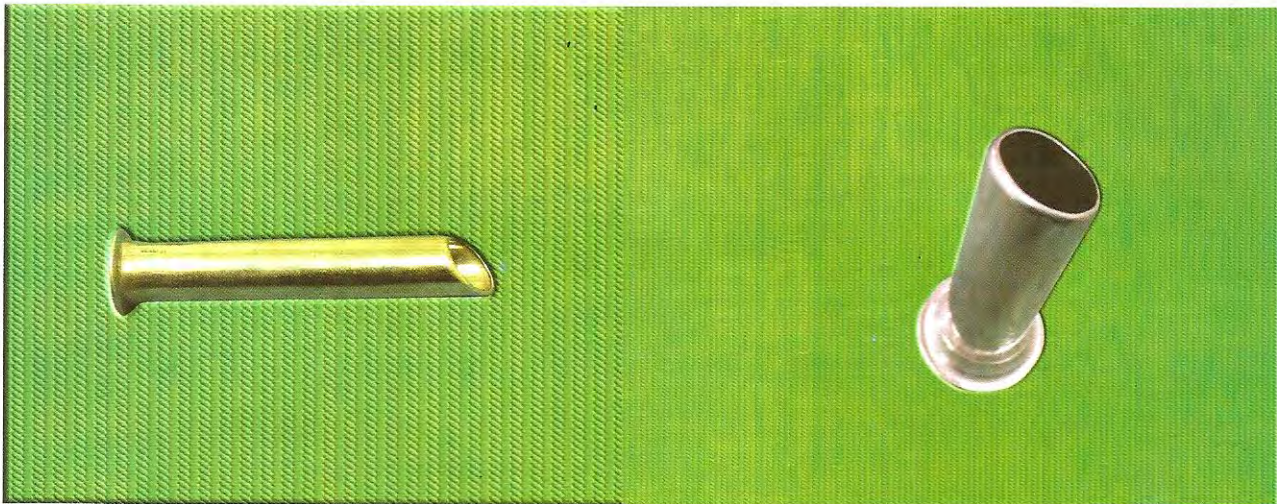
The speculum is gently inserted into introitus in front of perineum & then pushed upwards to its full length.

Q. What are the complications may occur ?

- Infection.
- Vaginal laceration.

FERGUSSON SPECULUM

خلاصہ
2013



Q. Why you direct the taller end to the back ?

Because posterior vaginal wall is taller than anterior wall by about 2 cm.

Q. Indications to use it ?

During chemical cauterization of the cervix using silver nitrate 10-20% or formaldehyde to protect the vagina.

Q. Other types of cautery ?

Electrocautery, Cryocautery, Laser.

Q. Which is better electro or cryocautery ?

Cryocautery is better as it results in minimal fibrosis as compared with electrocautery.

Q. What is the best method for cauterization ?

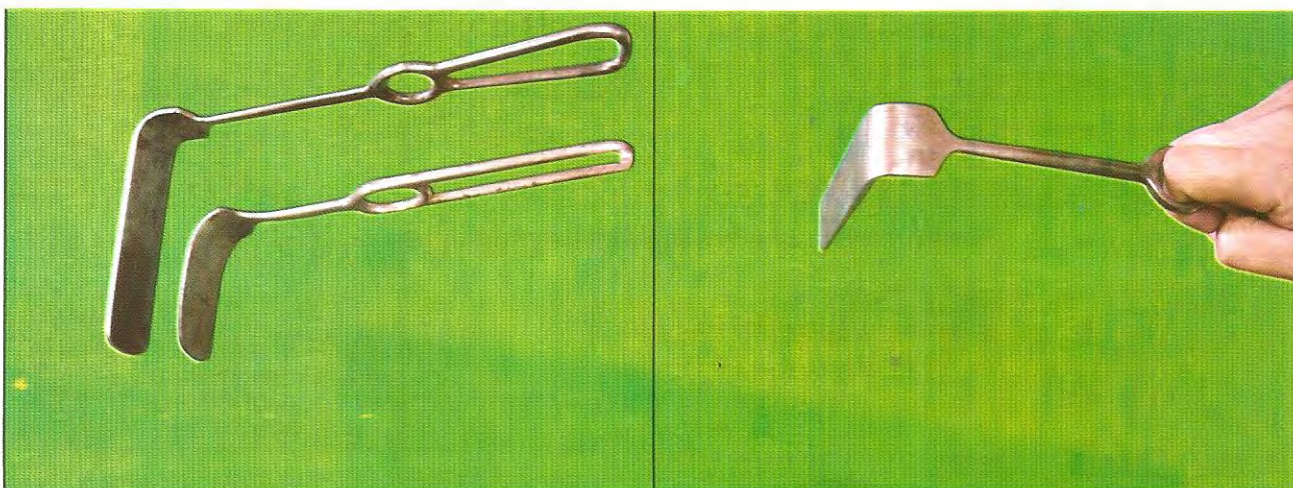
Semm's endocoagulator but it is expensive.

POSTERIOR (LATERAL) VAGINAL WALL RETRACTOR

under Anaesthesia

(NON SELF RETAINING)

کتب الاسلامیہ کابل

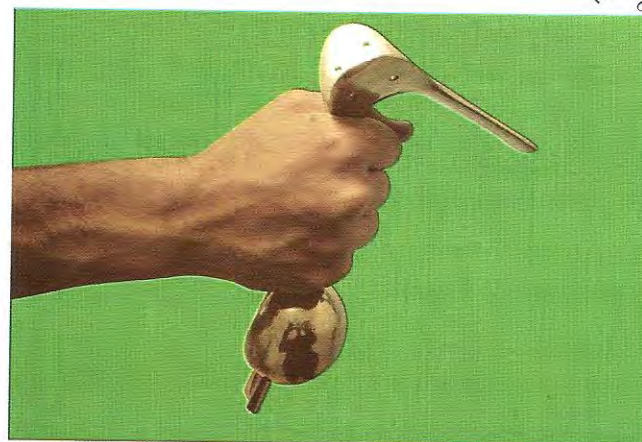
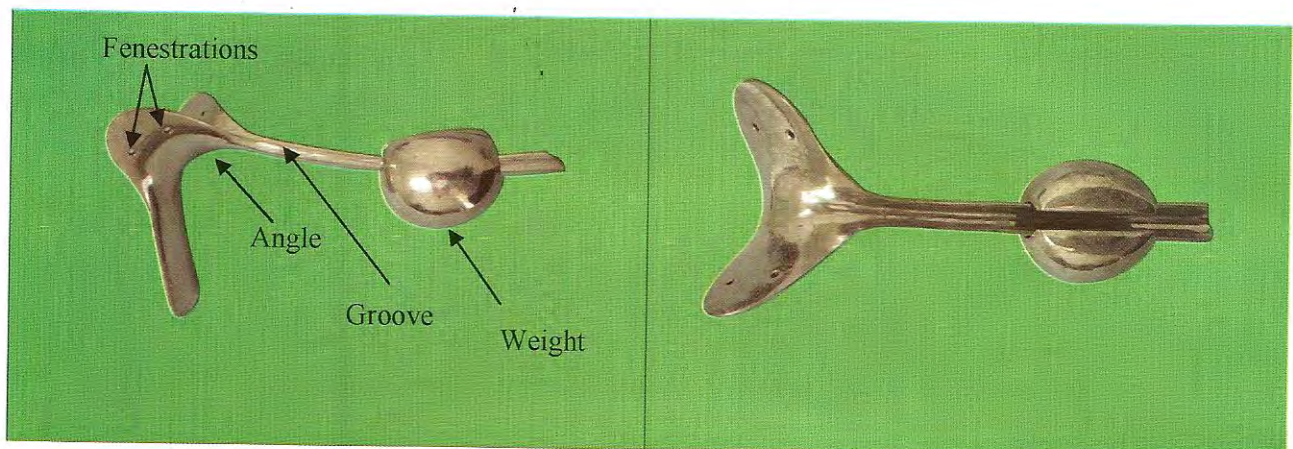


لا حظ سے و جب د قیلا
(weight)

AUVARD'S POSTERIOR VAGINAL WALL RETRACTOR

under Anaesthesia

(SELF RETAINING)



(weight) لوجده من غير ثقيله
لا عطا وجود الخروم

Q. What are its uses ?

To retract the posterior vaginal wall during:

1. Major vaginal operations except posterior vaginal operations.
2. Minor vaginal operations if done with general anaesthesia . e.g. IUD

Q. What there is a groove ?

For escape of discharge or blood .

Q. Why fenestrated ?

For fixation by towel clips.

Q. Why there is an acute angle ?

Not to fall down when the patient is in lithotomy position.

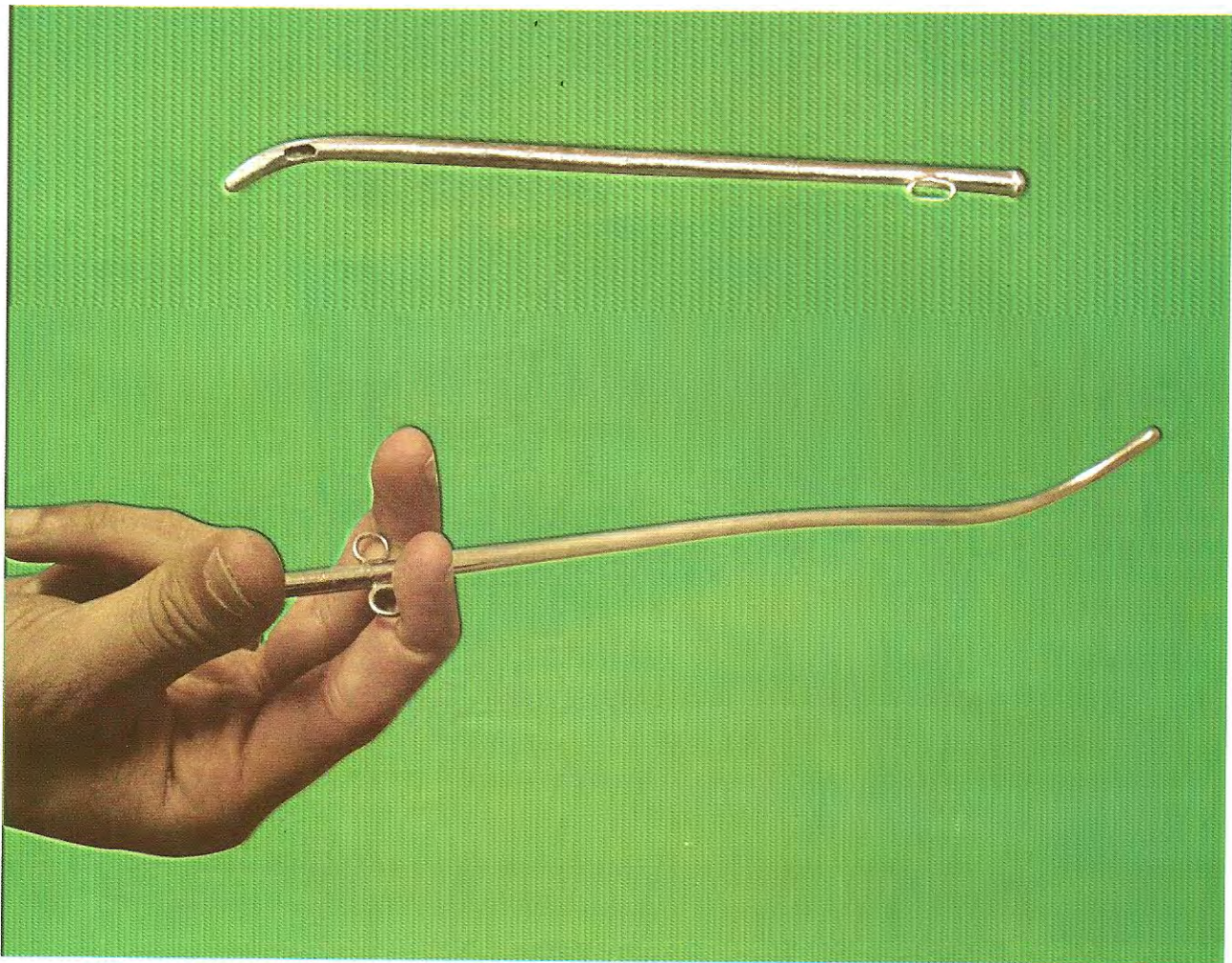
Q. How to keep it self retaining ?

- The blade has small angle with handle.
- The blade is fixed to the towels of patient.
- The buttocks of patient should be a little beyond the lower edge of operation table.

Q. What are the complications may occur ?

- Infection.
- Vaginal laceration.

FEMALE STRAIGHT METAL CATHETER



Q. Uses ? See later

*evaluation bladder before Any
Gynaecologic operati*

Q. Why their openings are on its sides not on its tip ?

To avoid pain and injury of urethra during insertion.

Q. Why it has 2 openings near its end ?

One opening for urine & the other for air.

Q. Why your fingers is closing the external opening of the catheter while inserting it through urethra ?

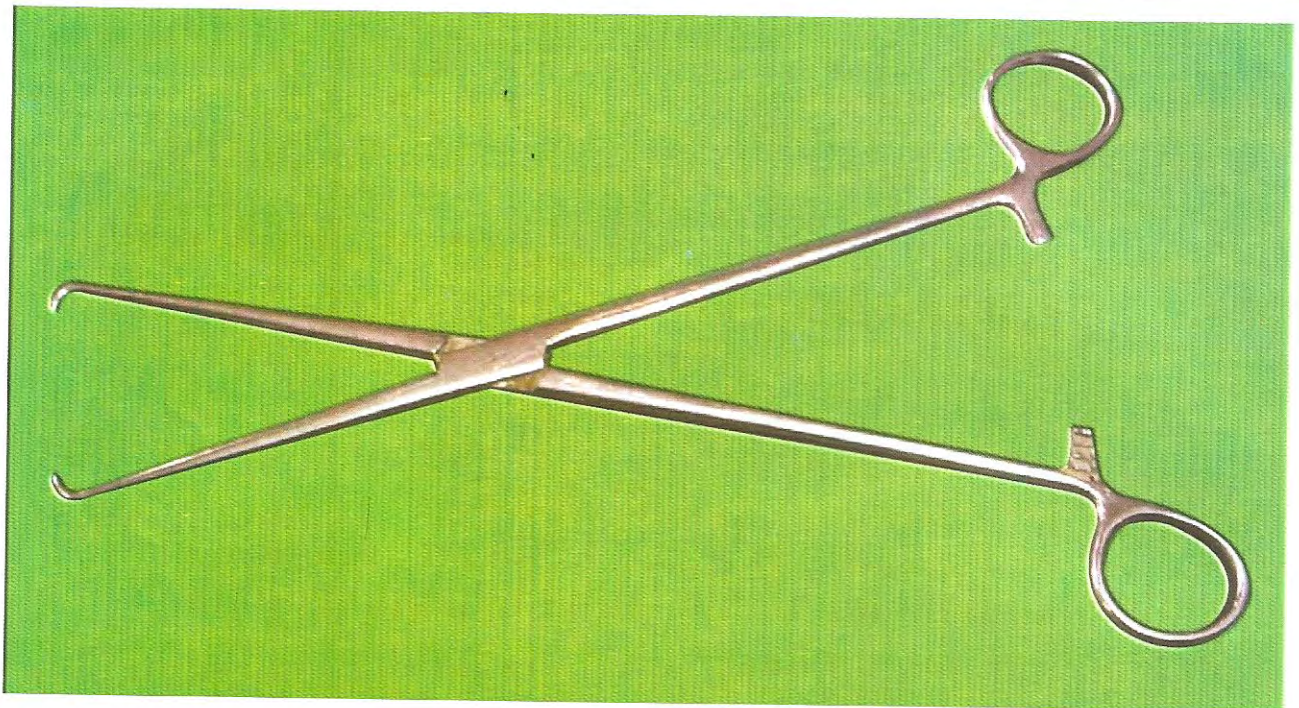
To avoid :

- Dribbling of urine.
- Pneumo cystitis .

Q. What are the complications may occur ?

- Infection.
- Urethral injury.

SINGLE TOOTHED VOLSELLUM



Q. Disadvantages ?

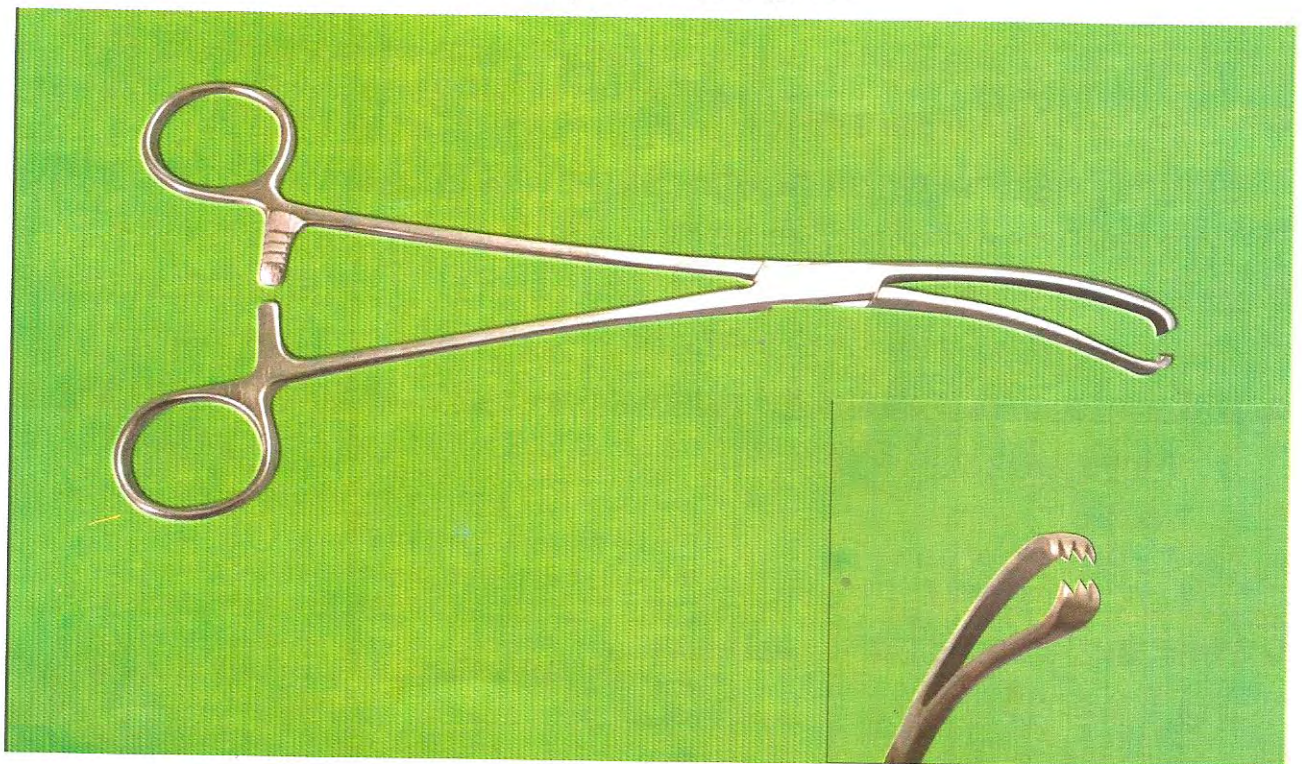
Increase incidence of cervical tears (*single pressure point*).

Q. What to use it safely ?

If extensive fibrosis in cervix (*no bleeding tendency*) as in case of excessive cauterization.

MULTIPLE TEETHED VOLSELLUM

(....×.....) = no of teeth e.g. 4×3

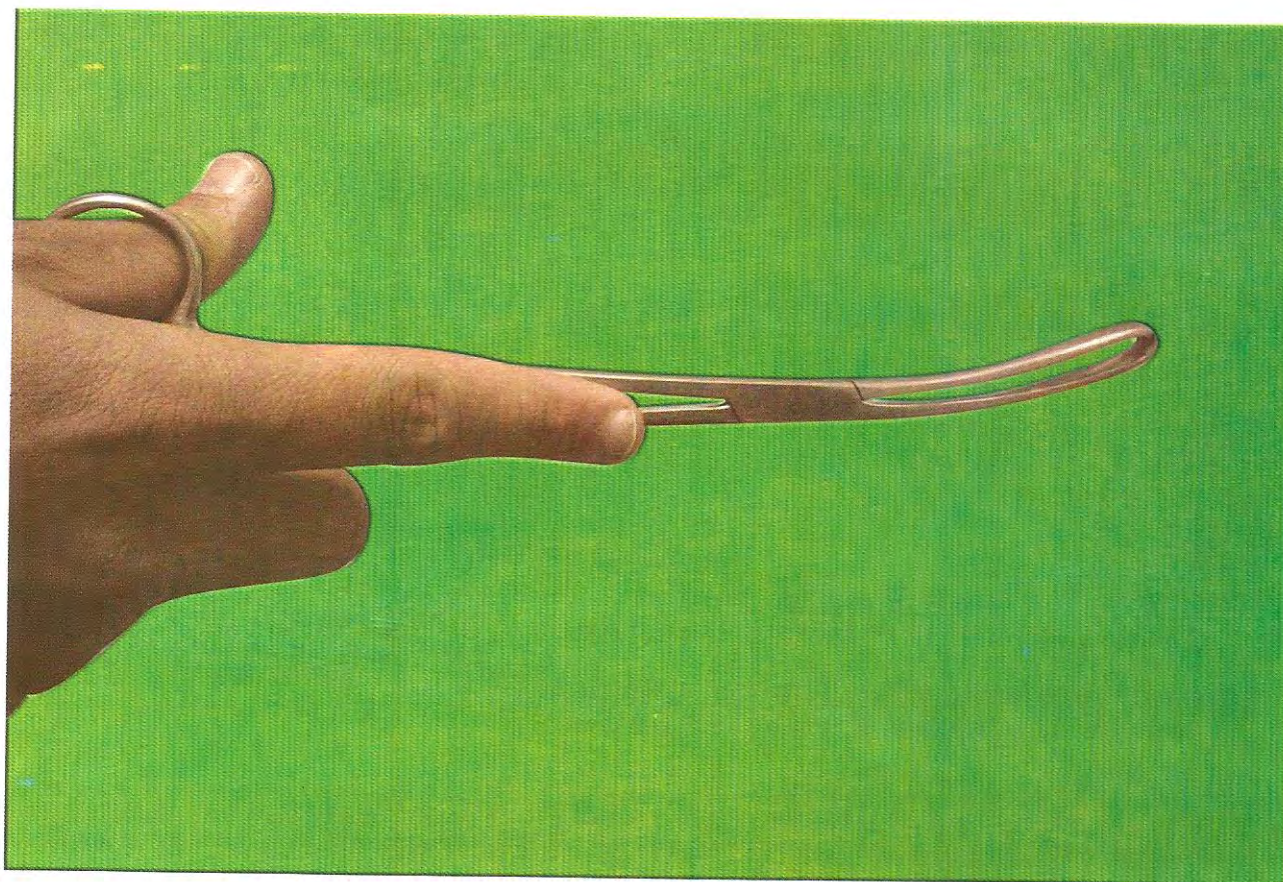


★ **Q. What's better single or multiple teathed volsellum ?**

Multiple teathed is better as it grasps the cervix in more than one point (*force is distributed*). So decreased the incidence of cervical tears.

★ **Q. Direction of it's curve while application ?**

Upwards to avoid injury of the urethra.



Q. What would you do if you have no multiple teathed volsellum ?

Use 2 single toothed volsellums.

Q. Uses ? To grasp non-pregnant uterus.

Q. What are the complications may occur ?

- Infection.
- Cervical tears.

Q. How to deal with cervical tear if occur ?

- Compression.
- Cauterization.
- Suturing.

Q. Operations to repair cervical tear ?

- Emmet's trachelorrhaphy.
- Bonney's trachelorrhaphy.

Q. What is the difference between single toothed & multiple teathed volsellum ?

SINGLE TOOTHED VOLSSELLUM

Needs no traction.

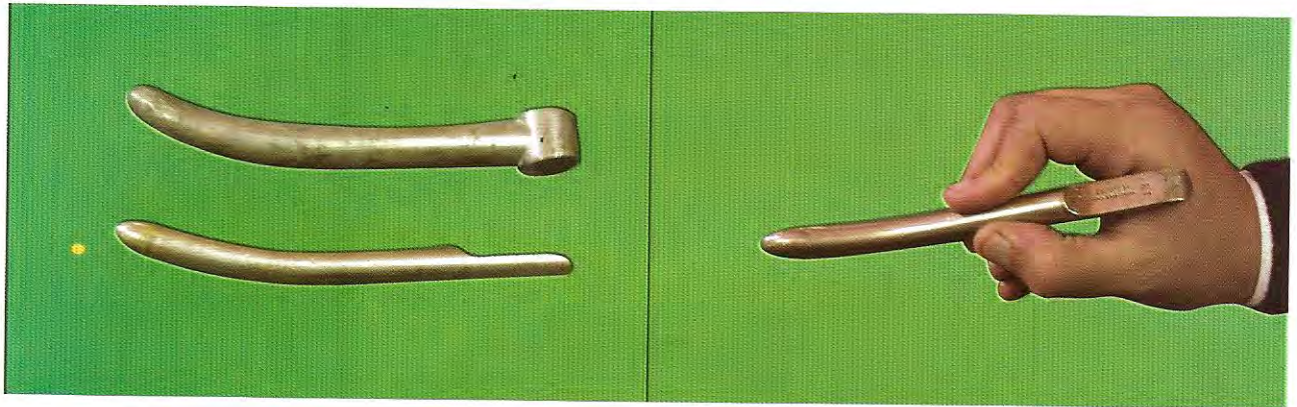
Without general anaesthesia.

MULTIPLE TEETHED VOLSSELLUM

Needs traction.

Usually under general anaesthesia.

HEGAR CERVICAL DILATOR (SINGLE ENDED) N^o



Q. How did you identify its type ?

Hegar dilator has uniform diameter all through its length.

Q. How you grasp it while use ? & Why ?

Like a pencil. To guard against perforation during dilatation.

Q. At which distance you put your fingers ?

At a distance equal the length of the cervical canal after sounding.

Q. What is no you begin dilatation with ?

Dilator No. 4 (4mm) = diameter of the sound .

Q. Why we don't begin with diameter < 4mm ?

To avoid false passage (in the cervical substance).

Q. How can you use it for dilatation ?

- Insert dilator No. 4 at 1st and leave it (0.5-1 minute) to allow relaxation of cervical fibers and avoid rapid dilatation with subsequent cervical dilatation.
- Then insert the next dilator & do the same as the 1st one.

Q. How can you find a solution for cervical stenosis or resistance on passage of dilator ?

- Lubricant (paraffin oil or gel).
- Antispasmodic.
- 1/2 N^o dilators (gradual dilatation).
- Leave it for 2 minutes.
- Deep anaesthesia .★

Q. What is the maximum No for dilatation ?

- In Gynecology: Maximum : 8
May cause fear of internal os & subsequent isthmus incompetence.
- In Obstetrics: No limit.
Cervix is containing elastic fibers during pregnancy.

NB : Degree of cervical dilatation :

THE CONDITION	THE HEGAR USED
Diagnostic operation e.g. endometrial biopsy	Hegar 8
Evacuation of uterine contents	Hegar 12
Spasmodic dysmenorrhea	Hegar 14
Digital exploration of uterus	Hegar 20

Q. How can you detect cervical tear during dilatation ?

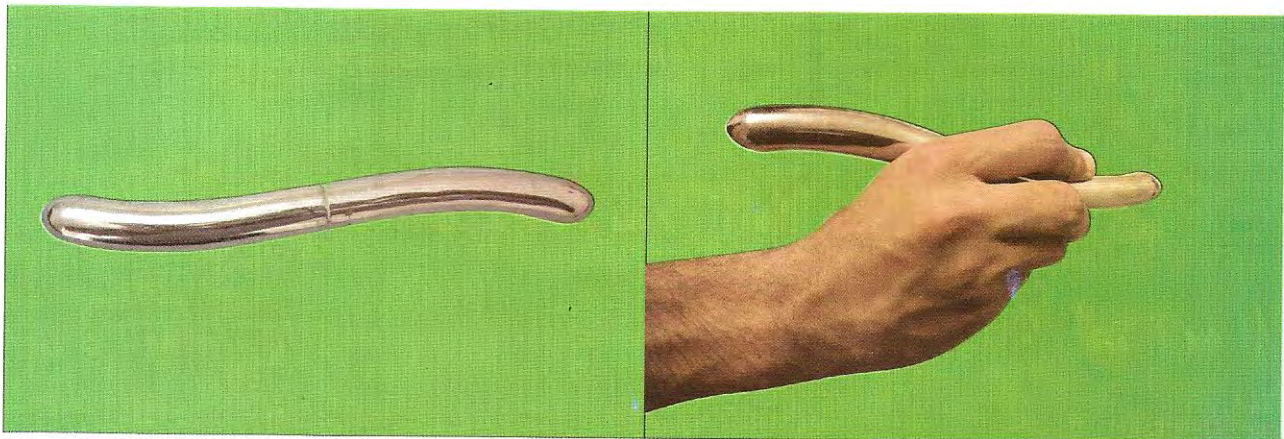
If cervix is intact, cervical mucous is seen around dilator.

Q. What are the complications may occur ?

- Infection.
- Perforation.

HEGAR'S CERVICAL DILATOR (DOUBLE ENDED)

No..... &.....



Q. Why double ended ?

To decrease the No. of dilator cervical with the doctor.

FENTON'S CERVICAL DILATORS (SINGLE ENDED)



Q. How you identify its type ?

Has tapering end with the smallest diameter at its tip and the widest diameter at its base.

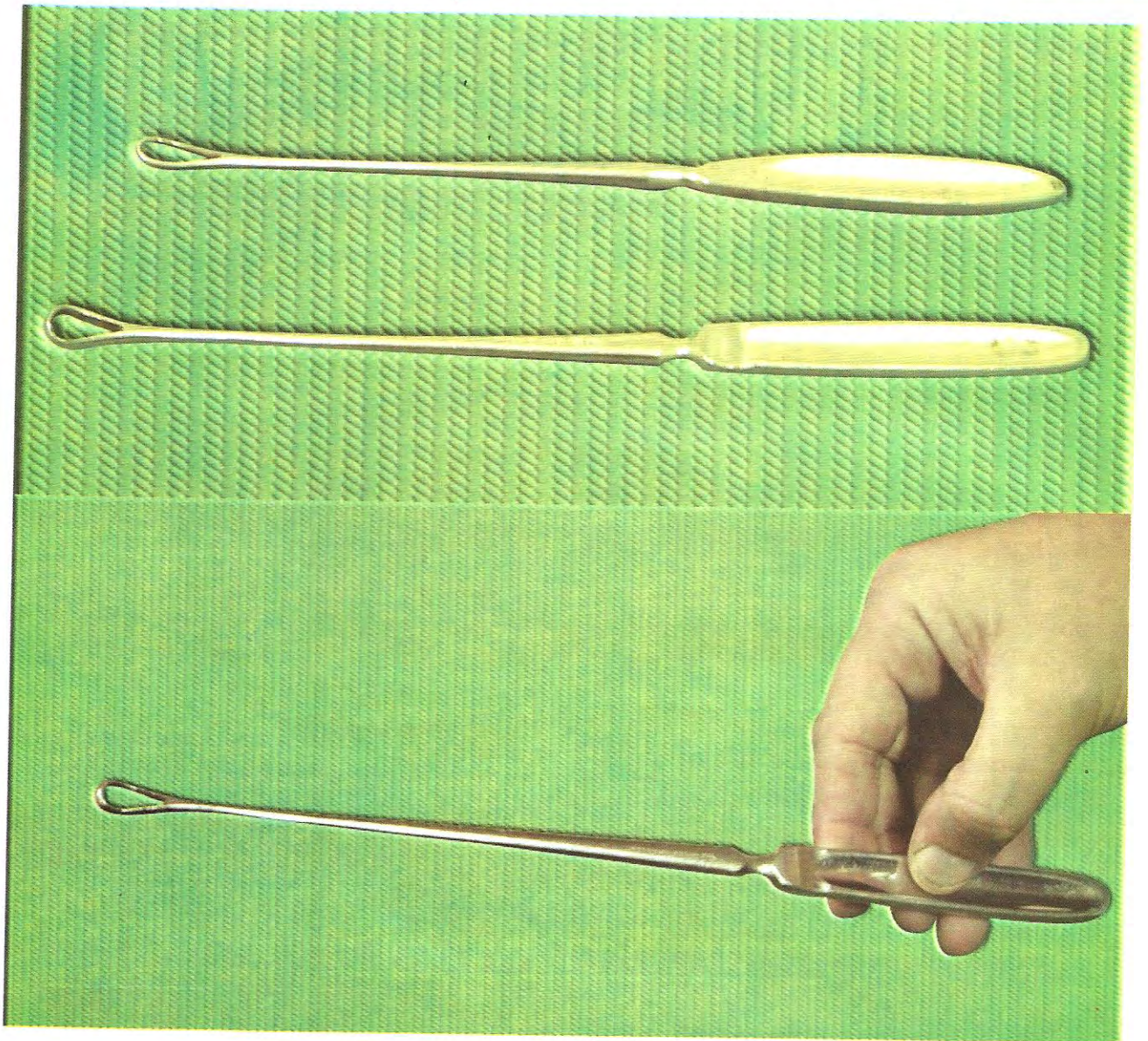
N.B. The diameter of the end of the dilator = middle of preceding one.

Q. What is better Hegar or Fenton ?

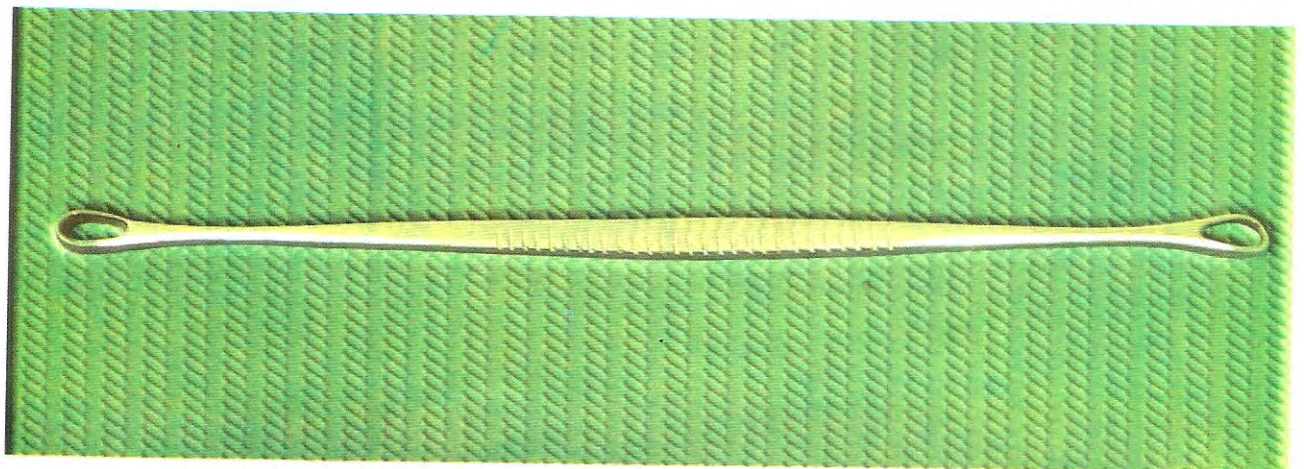
Hegar is better as it has uniform diameter nad blunt tip difficult to perforate the uterus.

Loop is 1 go 5. ✓

SHARP OR BLUNT LOOP UTERINE CURETTE (SINGLE ENDED)



DOUBLE ENDED LOOP UTERINE CURETTE



Q. What is better small or large curette ?

Large one (less incidence of perforation).

Q. What are the indications of blunt curette ?

In case of :

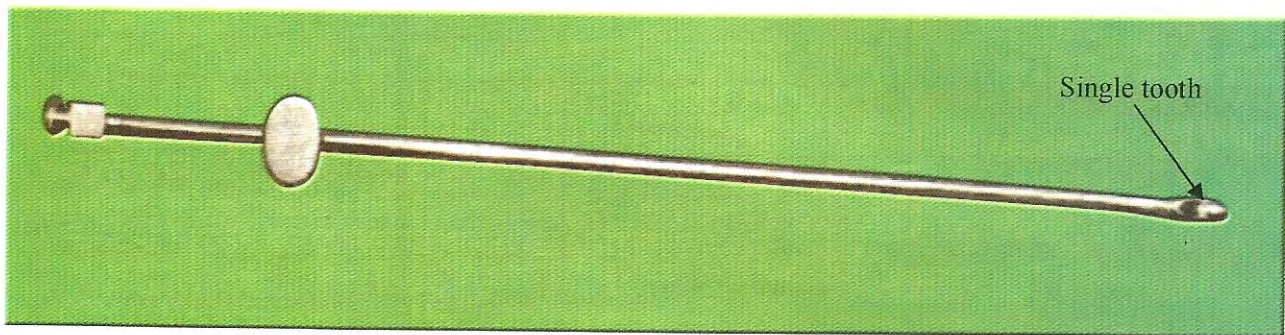
- Evacuation of abortion or vesicular mole.
- Infection as in pyometra.
- Malignancy (friable uterine wall).
- Post menopausal ♀.

+ Curette Endomet. Cavity & Exclude T Malign. by Curette Endomet Cavity

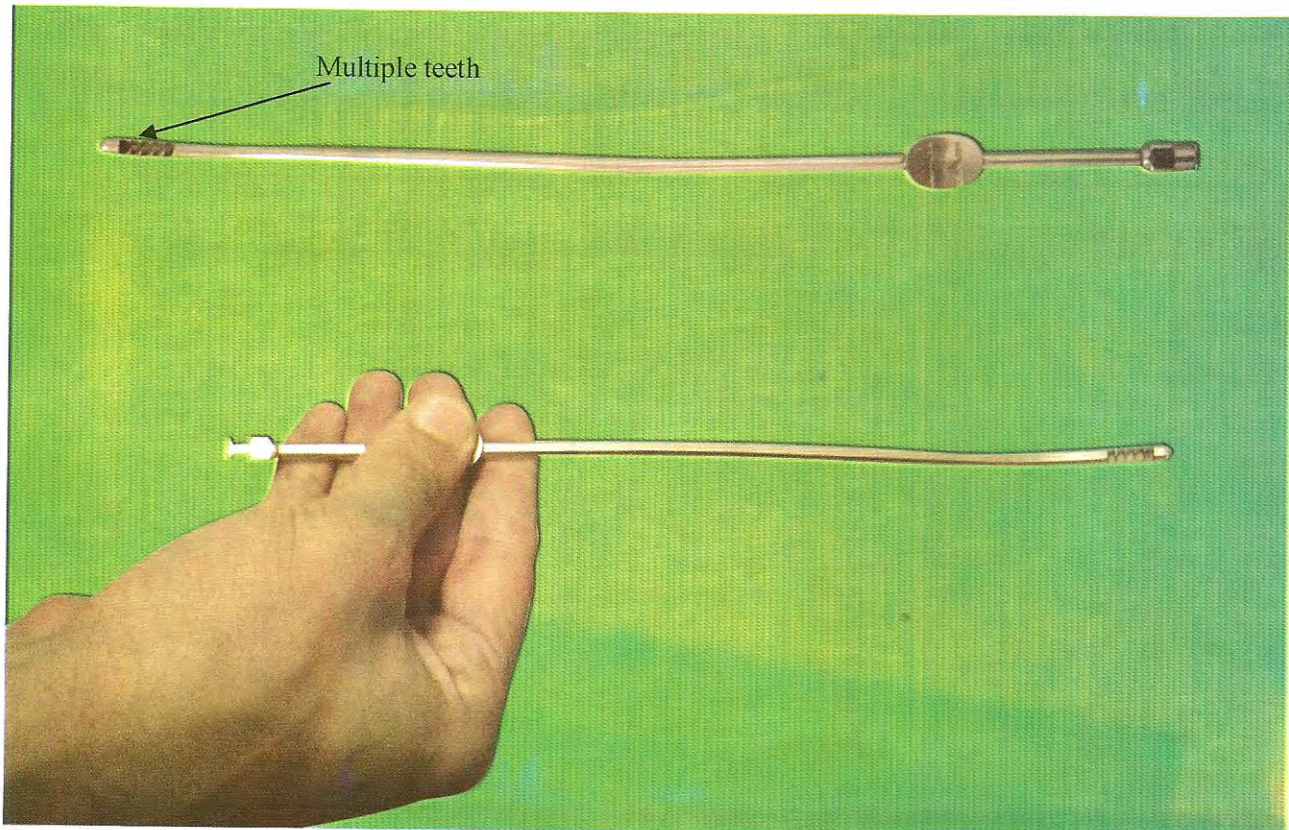
Q. What are the other indications of curette ?

To remove phosphatic encrustation in case of fistula.

SHARMAN BIOPSY CURETTE



NOVAK BIOPSY CURETTE



Q. Uses ?

Pre-menstrual endometrial biopsy to detect ovulation.

Q. What are their advantages ?

No need for anaesthesia while obtaining the biopsy.

Q. Why they have a tunnel ?

To obtain endometrial biopsy and for irrigation.

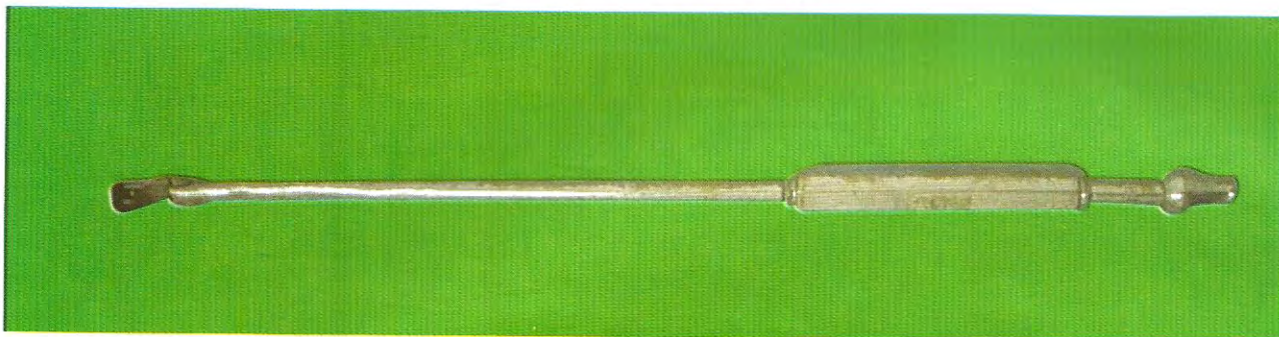
Q. What are the complications may occur ?

- Infection.
- Perforation.

Vishal
2013

FUNDAL FLUSHING CURETTE

(RHEINSTADTLER'S)



Q. Uses ?

For curettage of decidua after evacuation using anti-septic solution for irrigation.

Q. Why its end is fenestrated ?

For escape of the fluid used for irrigation to avoid tubal regurgitation.

DILATATION AND CURETTAGE (D & C)



TYPES OF CERVICAL DILATORS

1. Hegar: uniform diameter.
2. Fenton: tapers gradually towards the tip.

TYPES OF CURETTES

1. Loop curette : either sharp or blunt
2. Fundal curette.
3. Endometrial biopsy curette : as Novak or Sharman.
4. Flushing curette.

TECHNIQUE OF D & C

- Anaesthesia : general , spinal or paracervical.
- Lithotomy position.
- Sterilization of vulva, vagina and surrounding by Betadine and towel application.
- Bladder evacuation.
- Examination under anaesthesia (EUA).
- Exposure of the cervix, using Auvard's posterior wall self retaining speculum.
- Grasp the cervix by a volsellum (*multiple teethed is better*).
- Sounding of the uterus : to detect uterine length and direction of the uterus.
- Dilatation: by using Hegar or Fenton dilators.
- Curettage till gritty sensation is reached, the bleeding through cervix is decreased & air bubbles comes from cervix.
- The curetted material is examined grossly and sent for bacteriological and histopathological examination.

INDICATIONS OF CERVICAL DILATATION & CURETTAGE

Dilatation

I. Dilatation alone

- Spasmodic dysmenorrhea. → *Rabbit Abort.*
- Drainage of pyometra or haematometra.
- Cervical stenosis.

II. Dilatation before another operation

- ✓ Operations of the cervix *prevent stenosis*
- ✓ e.g. amputation, cauterization ...etc.
- ✓ Operations of the uterus
- e.g. curettage , evacuation , polypectomy ...etc.
- Operations of the tube e.g. Rubin's test .

Curettage

I. Diagnostic

- Premenstrual endometrial biopsy for detection of ovulation. *to exclude*
- TB endometritis . ←
- Postmenopausal bleeding. *to exclude*
- Endometrial carcinoma. ←

II. Therapeutic

- Membranous dysmenorrhea.
- Metropathia haemorrhagica.
- Polypectomy. → *Hysteroscope is better*
- Removal of IUD. *ONLY IF*

COMPLICATIONS OF D&C OPERATION

I. Complications of anesthesia.

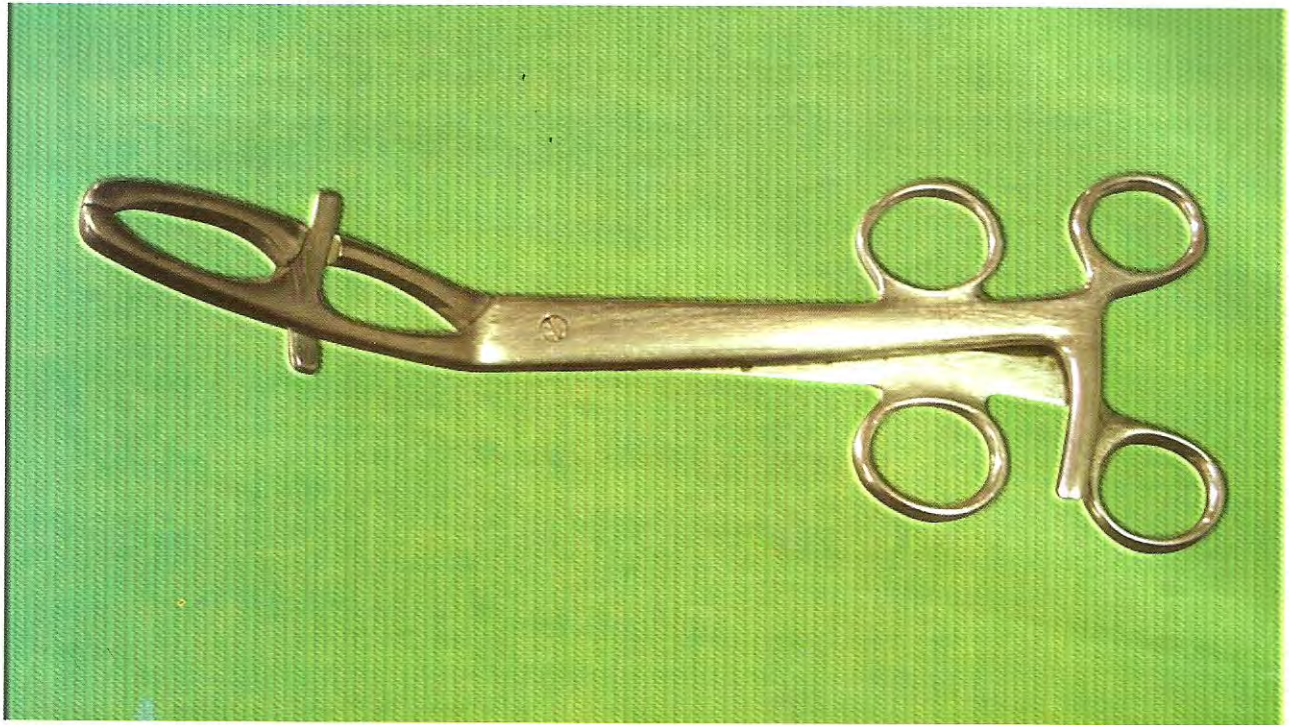
II. Complications of dilatation :

- Immediate: - Trauma to vagina, cervix or uterus.
- Infections: peritonitis.
- Remote:
 - Ectropion (*chronic cervicitis*).
 - Patulous internal os of the cervix (*habitual abortion*).
 - Asherman syndrome.
 - PID (*pelvic inflammatory disease*) and subsequent infertility.

III. Complications of curettage:

- Asherman syndrome.
- Injury of fibroid capsule (*haemorrhage*).

BONNY MYOMECTOMY CLAMP



★ Q. Indications ?

For temporary haemostasis during myomectomy operation.

150 ★ Q. It's disadvantage ?

- May injury the intima of uterine artery.
- The ovarian arteries are not closed.

Q. Duration of occlusion at a time ?

Maximum ½ hour, other wise ischaemia & crush syndrome result.

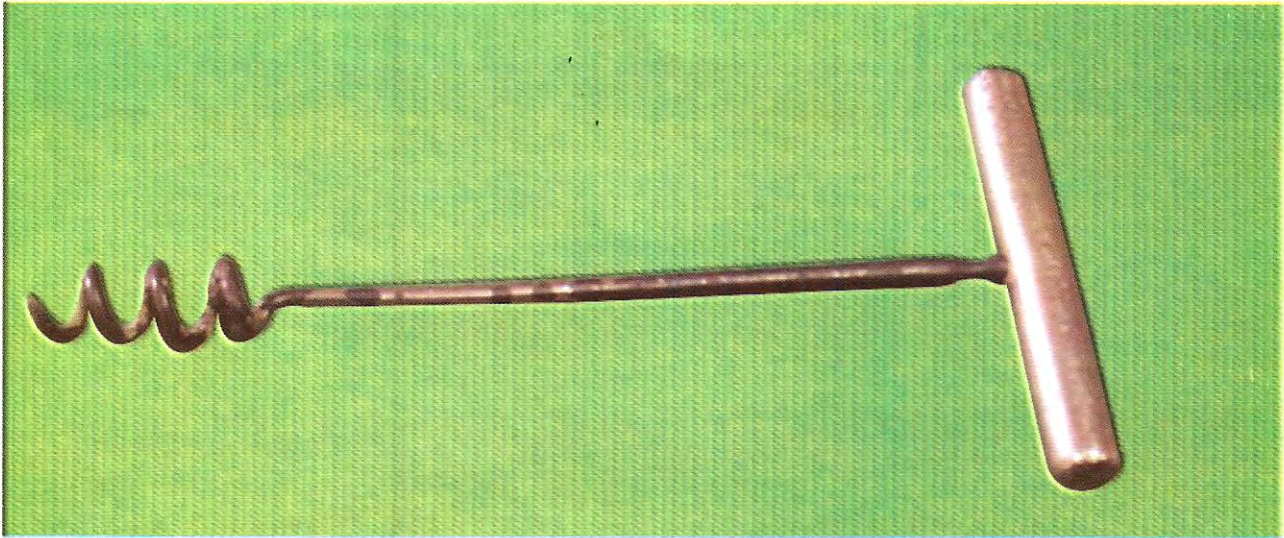
Q. What will you do, if this clamp is not available ?

- Good grasp with 2 hands of the assistant.
- Better use rubber tourniquet with less incidence of intimal injury.
- Intra-myometrial injection of vasopressin.

Q. What are the other measures for haemostasis during myomectomy operation ?

- Pre-operative precautions as
 - . Correction of anaemia (*Hb should be 11gm% pre-operative*).
 - . Blood transfusion should be available.
 - . The operation is done post menstrual.
 - . GnRH analogue can be given 2-3m before surgery to decrease vascularity and to reduce the size of the tumour.
- During the operation
 - Uterine incision: should be:
 - . In the midline rather than peripheral (the least vascular area is central).
 - . Least number of incisions.

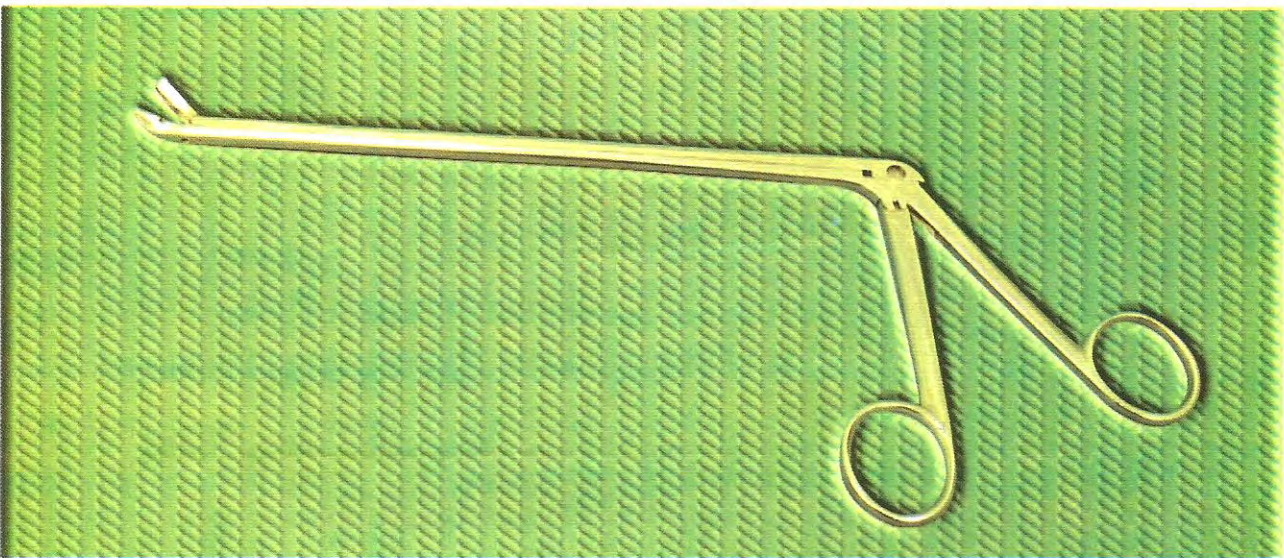
DOYEN'S MYOMECTOMY SCREW



Q. Uses ?

To remove the myoma from the uterus.

CERVICAL PUNCH BIOPSY



Q. What is used to identify the site of cervical biopsy ?

- Naked eye picture (*suspicious cervix*).
- Schiller iodine test.
- Colposcopy.

N.B. Schiller iodine with colposcopy can be used together.

Q. What are the complications may occur ?

- Infection.
- Bleeding .

★ Q. How to deal with bleeding Developed after punch biopsy ?

Chemical cauterization is used to stop the bleeding.

منقش تحيط ← كوتون

Q8 x
2013

WERTHEIM'S HYSTERECTOMY CLAMPS

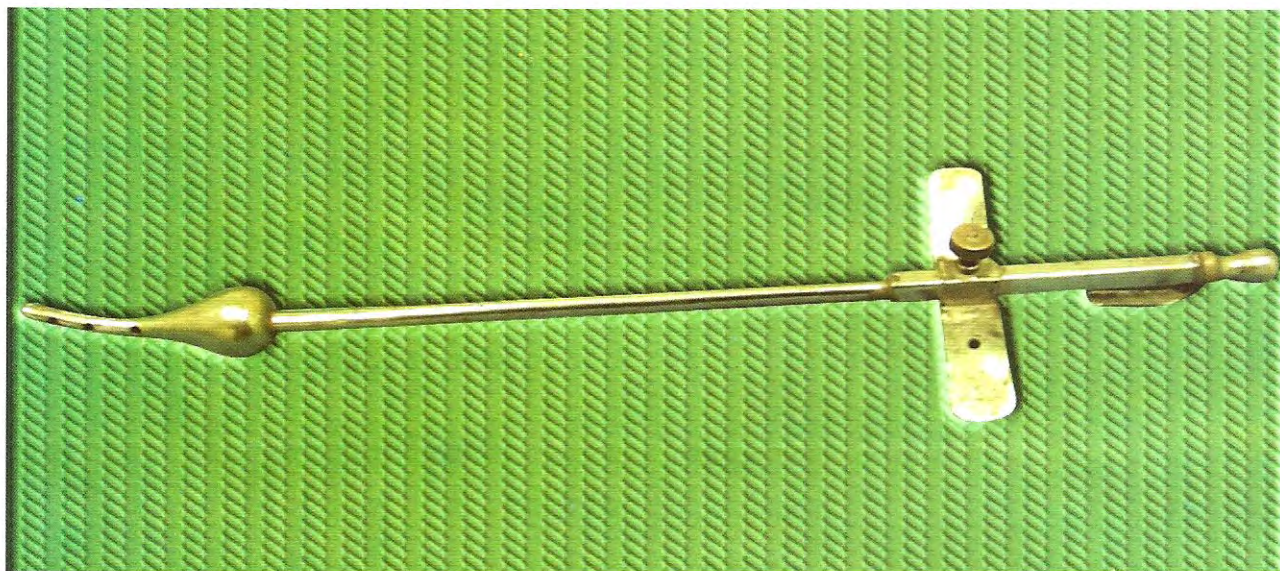


Q. Uses ? To clamp the vagina & parametrium in radical abdominal hysterectomy.

Q. Would you cut (using scalpel) from above or below the clamp ? & Why ?
From below to avoid spillage of tumour cells.

Q9

INSUFFLATION CANNULA (OLIVE ENDED)



Q. Uses ?

- Air insufflation (Rubin test).
- Injection of dye (HSG). ✓
- Methylene blue test under laparoscope. ✓

Q. How to be self retaining ? or Why there is movable shoulders ?

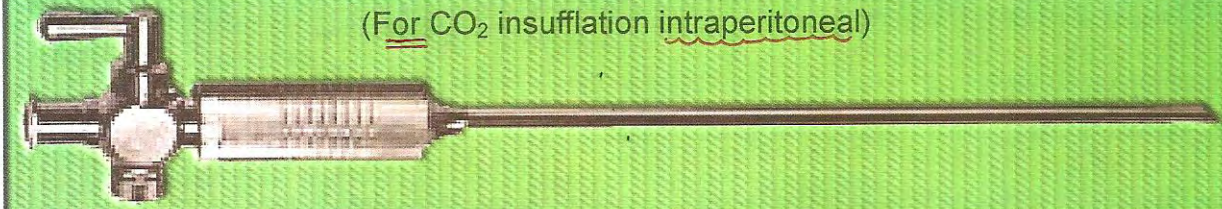
Volsellum is used to fix the cannula to the cervix.

Q. What are the complications may occur ?

- Infection.
- Perforation of cervix.

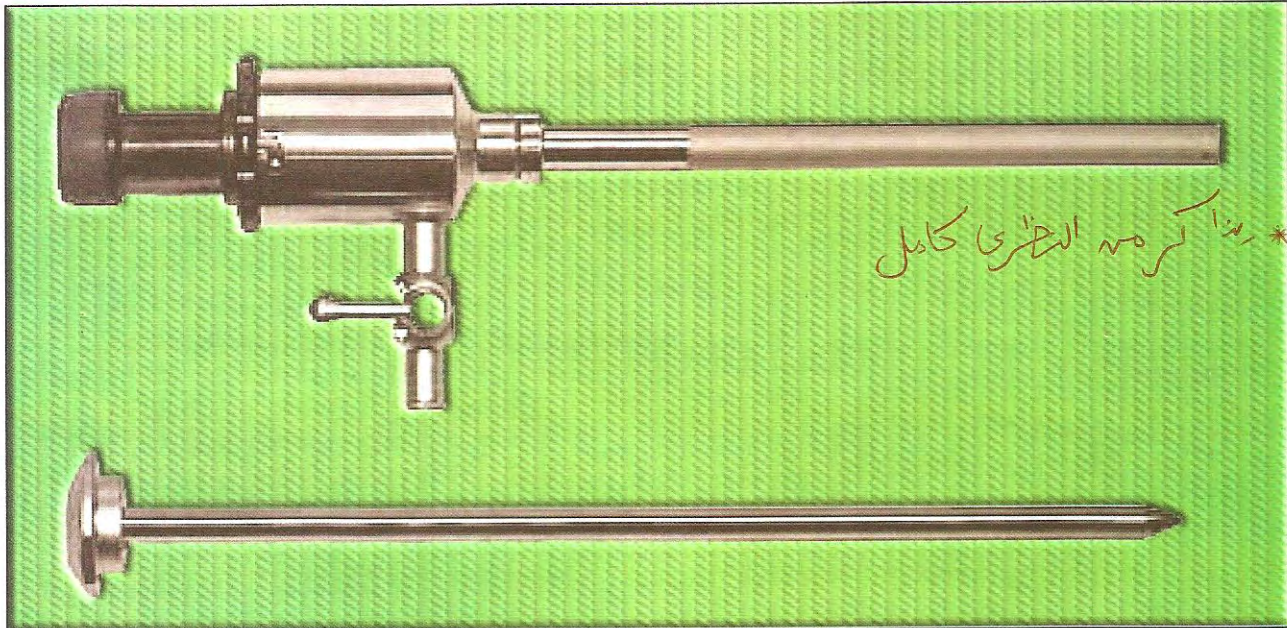
VERESS NEEDLE FOR LAPAROSCOPE

(For CO₂ insufflation intraperitoneal)

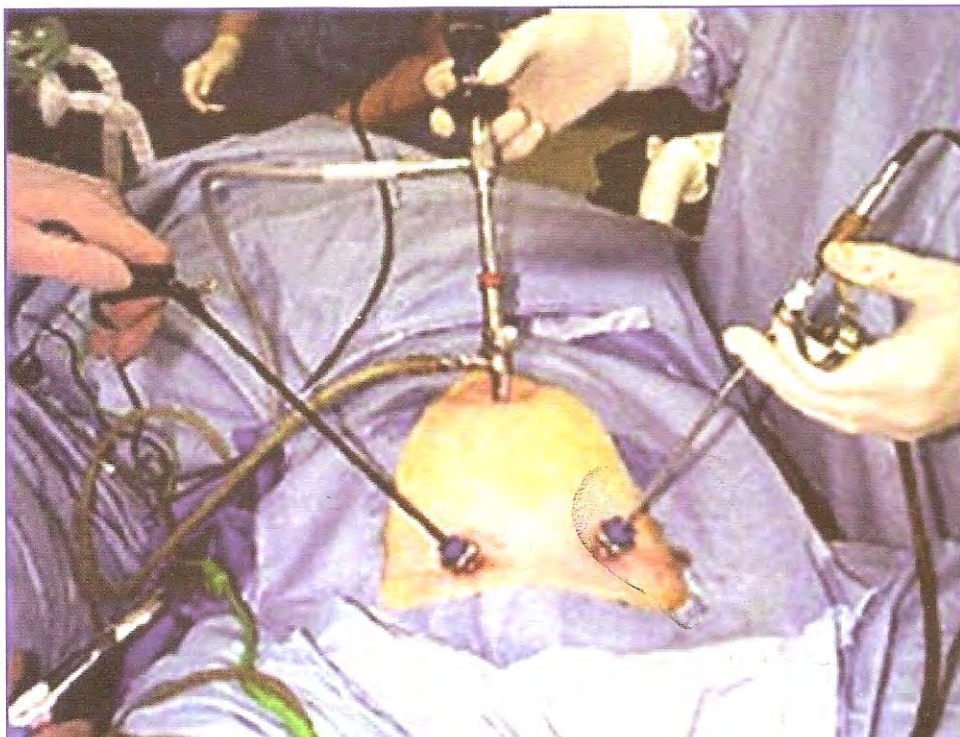


TROCAR & CANNULA FOR LAPAROSCOPE

⇒ for
Camera
Application



LAPAROSCOPE



TECHNIQUE

- General anaesthesia.
 - Trendelenburg position.
 - Sterilization and towel application.
 - Bladder evacuation.
 - Posterior vaginal wall retractor is inserted to expose the cervix that is grasped with a volsellum
 - The uterine cannula is inserted in the cervical canal and fixed to volsellum.
 - About 1 cm transverse incision is done below the umbilicus through which a veress needle is passed.
 - CO₂ is injected to insufflate the abdomen (about 2-4 litres).
- N.B.** The intra-abdominal pressure should not exceed 20 mmHg.
- Remove the veress needle then insert the trocar and cannula.
 - The trocar is removed and the laparoscope is introduced through the cannula.
 - The laparoscope is connected to both the fiberoptic light cable & CO₂ delivery cable.
 - A 2nd puncture (suprapubic or iliac fossa) sometimes is needed for proper visualization & even 3rd puncture in the other iliac fossa.

INDICATIONS

A- DIAGNOSTIC

I. INFERTILITY

1. Tubal factor :

- Peritubal adhesions.
- T.B. (caseation, calcifications , biopsy for pathological and bacteriological examination)
- Hydrosalpinx or pyosalpinx.
- Tubal patency test : methylene blue (site and side of block).

N.B. before and after any tubal surgery for follow up.

2. Uterus :

- Uterus hypoplastic.
- Septate uterus.
- Bicornuate uterus.
- R.V.F uterus.
- Subserous fibroid.

3. Ovarian:

- P.C.O.
- Ovarian tumour.
- Corpus luteum = test for ovulation.
- Streak gonads.

4. Peritoneal factor: Endometriosis (1ry diagnosis, investigation, staging, follow up).

II. OTHERS

1. Suspected cases of ectopic
2. Missed I.U.D. (perforated uterus)
3. Subserous fibroid
4. Ovarian cysts : - Ovarian tumours (biopsy) - 2nd look laparoscopy
5. In endometriosis (2nd look laparoscopy)
6. Acute P.I.D. in some cases of 1ry amenorrhea to detect any abnormalities in uterus or ovary.
7. Abnormal uterine bleeding especially post-menopausal to detect any ovarian abnormalities

B- THERAPEUTIC

I. INFERTILITY

1. Tubes : - In lysis of adhesions.
- Tuboplasty (Z.I.F.T).
2. Uterus : - Uterine suspension (recent).
- Myomectomy.
3. Ovarian : - Laparoscopic drilling in P.C.O.
- Ovum pickup for I.V.F & E.T.
4. Peritoneal factor : Treatment of endometriosis.

II. OTHERS

1. Tubes : - Tubal sterilization.
- Conservative surgery in ectopic pregnancy.
2. Uterine : - Extraction of extrauterine I.U.D.
- Recently , laparoscopic hysterectomy.
3. Ovarian cyst : Removal or aspirated.

CONTRAINDICATIONS

- 1- Very obese
- 2- Severe chest and heart diseases
- 3- Large hernia
- 4- Multiple previous laparotomies
- 5- During menstruation

COMPLICATIONS

- 1- Complications of anesthesia.
- 2- Complications due to introduction of instruments & pneumoperitoneum :
 - Respiratory or cardiac embolism
 - Gas embolism
 - Aggravation of hernia
- 3- Due to operative procedure :
 - Surgical emphysema
 - Hemorrhage
 - Infection
 - Burning in skin or intestine

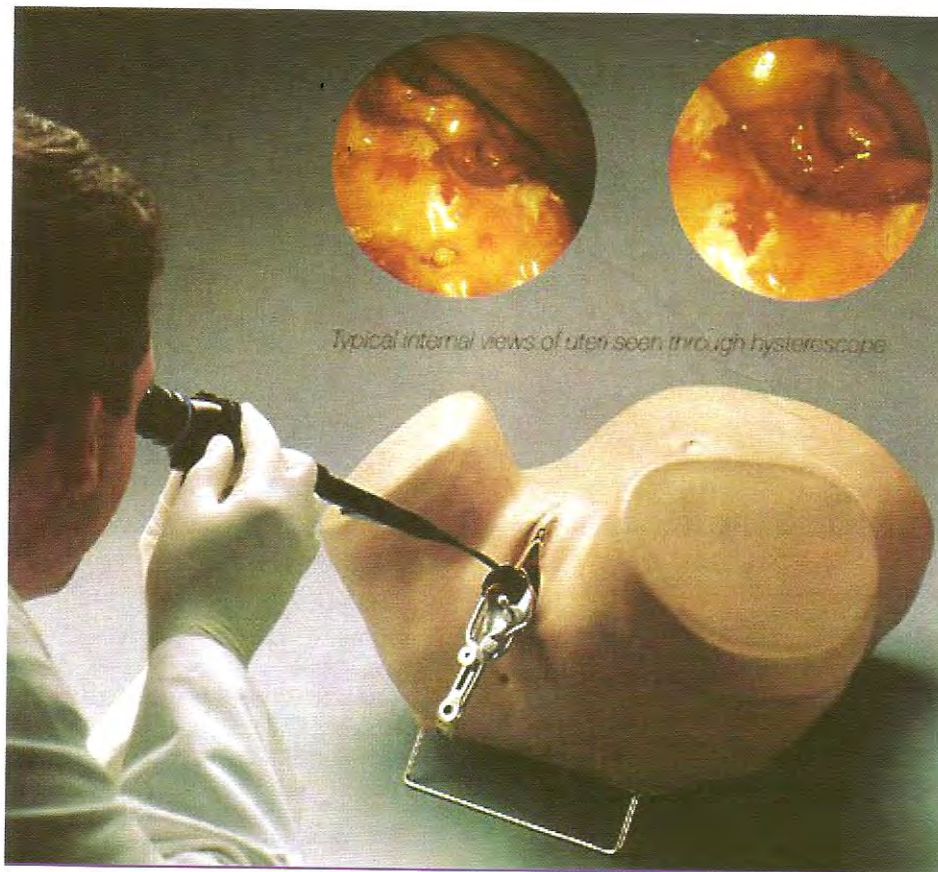
ADVANTAGES OF OPERATIVE LAPAROSCOPY OVER LAPAROTOMY:

- 1- Minimal hospital stay.
- 2- Minimal discomfort.
- 3- Early return to work.
- 4- Minimal adhesions.
- 5- Better cosmetic.
- 6- Rare wound complications.

TIMING

- 1- Post-menstrual for therapeutic laparoscopy.
- 2- Mid-cycle for ovum pick-up.
- 3- Luteal.
- 4- Premenstrual for laparoscopic diagnosis of premenstrual endometrial biopsy.

HYSTEROSCOPY



Idea

Telescope introduced through the cervical canal for panoramic visualization of the uterine cavity.

Technique

- General anaesthesia : in cases of operative hysteroscopy (10 mm in diameter)
N.B. *Not required in cases of diagnostic hysteroscopy (4 mm in diameter).*
- Lithotomy position.
- Bladder evacuation.
- The uterine cavity is distended with distension media e.g. Glycine...etc.
- The telescope is connected to a light source.

Indications

A. DIAGNOSTIC INDICATIONS

I. Gynaecological Indication

1. Infertility :
 - Tubal factor : fibro-optic salpingography (see hysterosalpingogram).
 - Uterine factor : (see hysterosalpingogram).
2. In post operative assessment of uterus and tubes : (see hysterosalpingogram)
3. In habitual abortions : (see hysterosalpingogram).
4. Irregular uterine bleeding : (see hysterosalpingogram).
5. Missed I.U.D. : intrauterine or extrauterine I.U.D.
6. Examination of virgin :
 - Through intact hymen to detect foreign body.
 - In children to detect sarcoma botryoids .

II. Obstetric Indications

1. Embryoscopy : for congenital foetal malformation.
2. Amnioscopy
3. Any post partum hemorrhage or post abortive bleeding

B. THERAPEUTIC INDICATIONS

1. Hysteroscopic resection of a uterine septum .
2. Hysteroscopic lysis of intra-uterine adhesions .
3. Hysteroscopic polypectomy .
4. Hysteroscopic myomectomy of submucous fibroid .
5. Hysteroscopic endometrial ablation in cases of bleeding and the patient is not surgically fit .
6. Hysteroscopic removal of missed I.U.D.

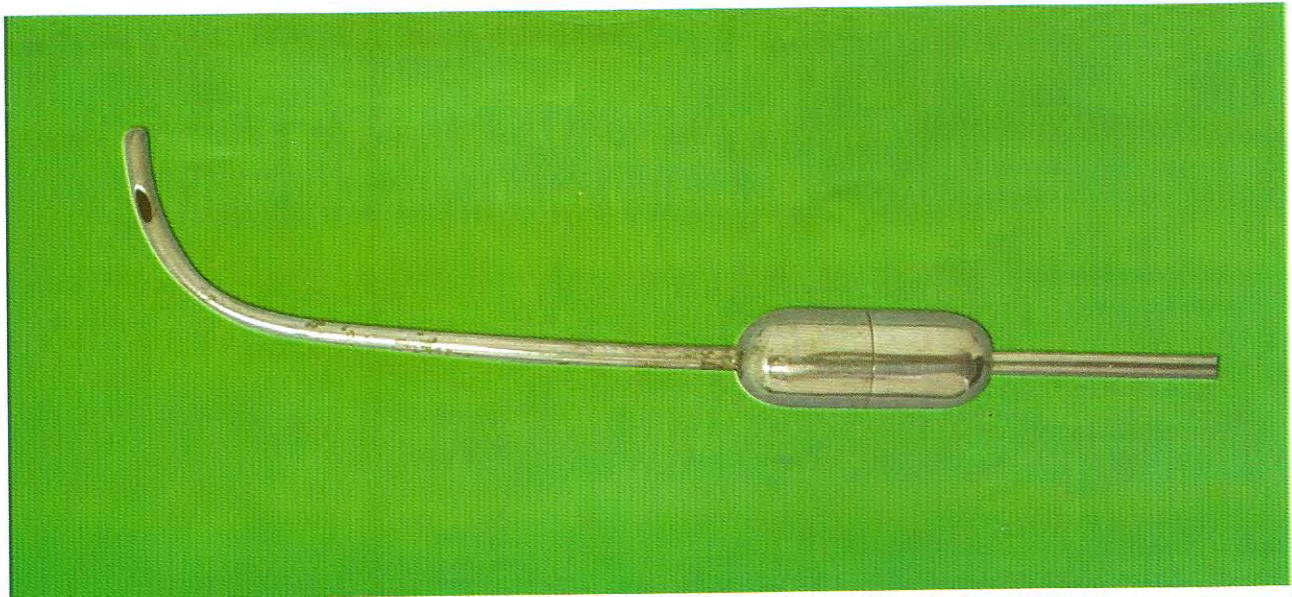
Contra-indications

- Suspected pregnancy.
- During menstruation.
- Genital tract malignancy.
- Genital infections.

Complications

- Anaesthetic complications (if used).
- Perforation.
- Infections.
- Haemorrhage.
- Complications due to distension media : pulmonary embolism , allergy ...etc.

METAL MUCOUS CATHETER



Q. Uses ?

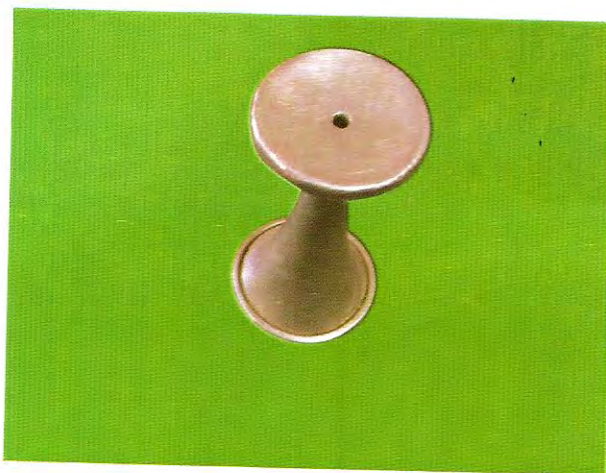
For suction of fetal pharynx after delivery.

Q. Which is better plastic catheter or mucous catheter ?

Plastic catheter connected to suction apparatus is better as it is not traumatic .

Pinard $\leftarrow$ ^{test} Method

PINARD'S FETAL STETHOSCOPE



Q. Uses ?

To hear fetal heart sound. = Sure sign of preg.
 $\rightarrow 120 - 140$ beat / min

Q. When ?

At 24 weeks gestation.

Q. How to hear fetal heart sounds earlier ?

- Doppler (sonicaid) at 10 weeks
- Ultra-sound at 6-8 weeks. ✓
 $\rightarrow$ Doppler



Q. Other sounds you may hear using the Pinard's stethoscope ?

- Uterine souffle.
- Intestinal sounds
- Transmitted aortic pulsations.
- Umbilical souffle.

* Q. The value of hearing fetal heart sounds ? $\rightarrow$ Sure Sign of Preg.

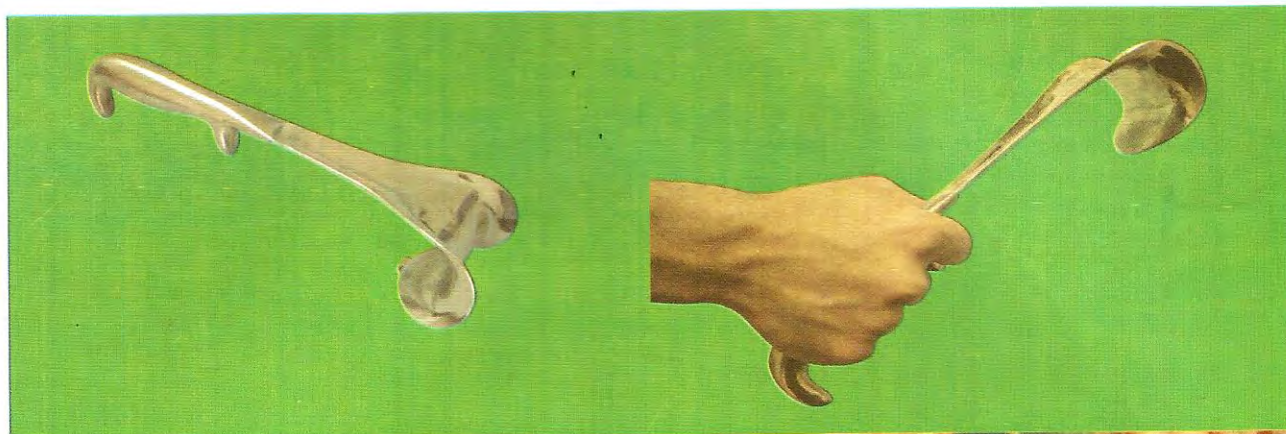
- Sure sign of pregnancy.
- Diagnosis of fetal distress.
- Diagnosis of fetal life : living or dead.
- Detection of presentation .
- Detection of position.
- Diagnosis of twins.

Q. Where you heard the word "Pinard" in obstetrics ?

- Pinard's method (bring down a leg) in breech presentation.
- Pinard's test (test for cephalo-pelvic disproportion in contracted pelvis).

N.B No Complic.

DOYEN RETRACTED



* Q. Uses ?

To retract the bladder downwards in LSCS.

Q. When you apply it during C.S. ?

Before uterine incision.

Q. When you remove it ?

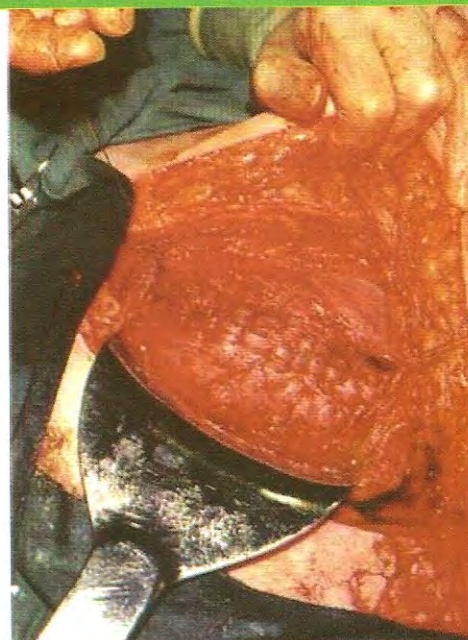
During delivery of the fetus (avoid head trauma).

Q. When you apply it again ?

During suturing of the uterine incision .

Q. May be used during hysterectomy ?

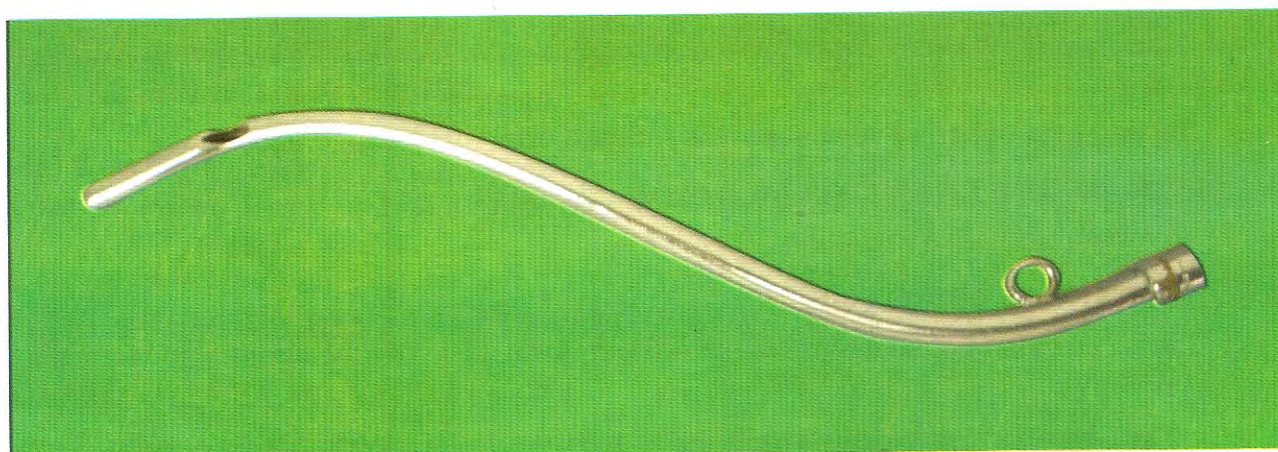
No, because during hysterectomy we fear of ureteric injuries not bladder injury.



* Q. What are the complications may occur ?

- Infection.
- Bladder injury. *& Laceration*

CURVED " S-SHAPED" METAL CATHETER



Q. Uses ?

To evacuate bladder during 1st stage labour.

Q. Why "S-shaped" ?

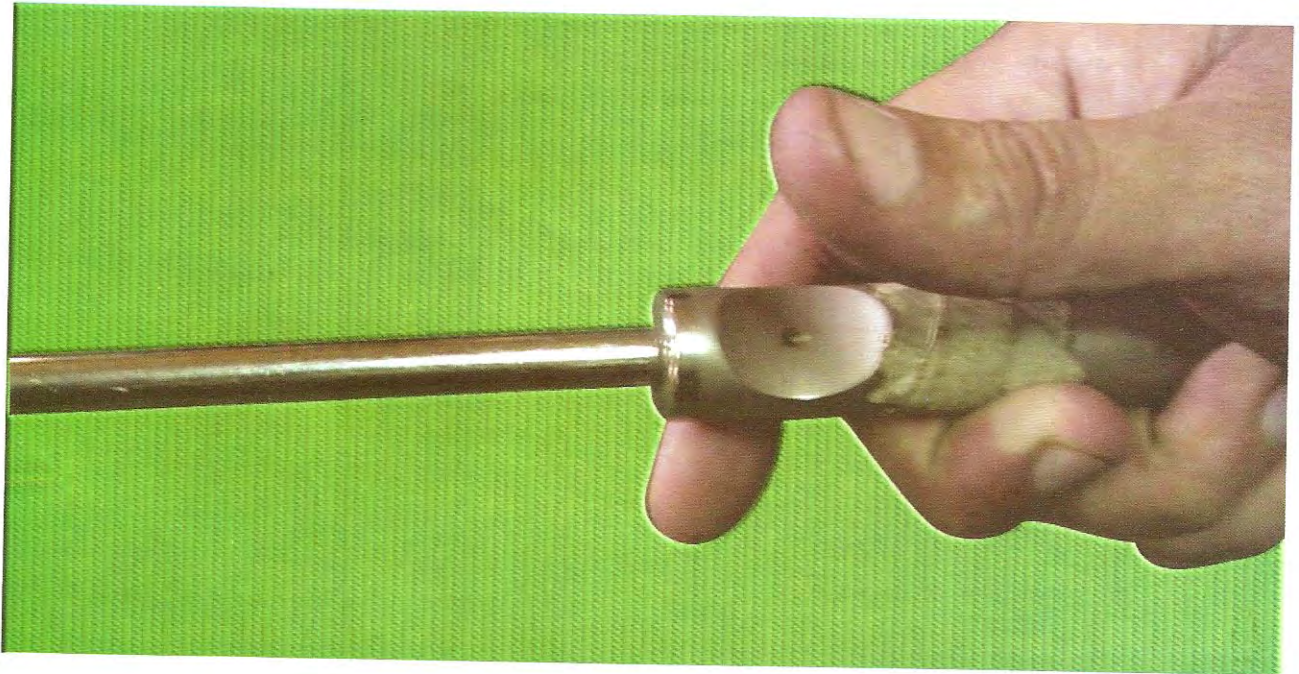
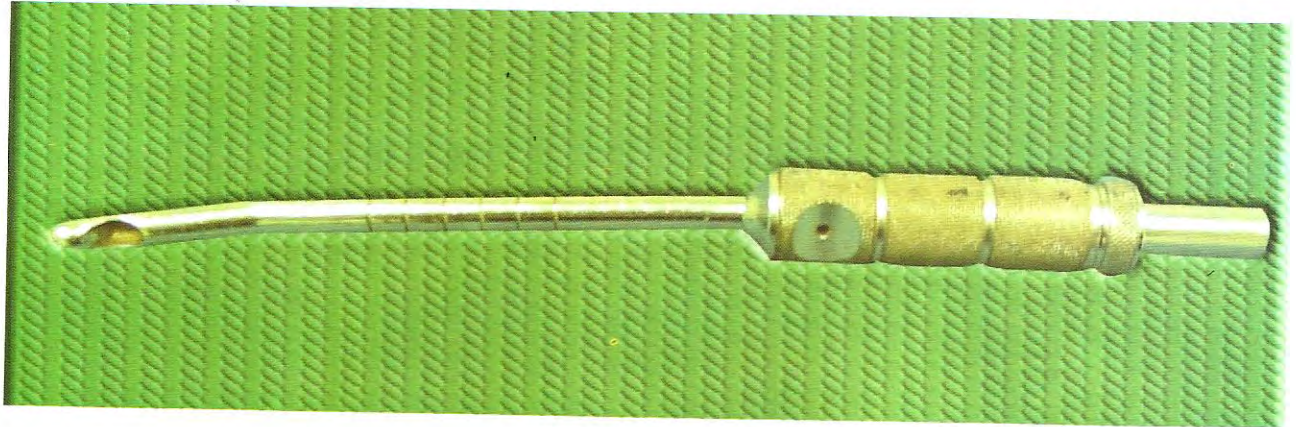
To acquired the head of fetus (i.e. to fit on the fetal head).

*ای س شپے اوں فیوڈل
→ ♀ Metal Catheter*

*Complic → injury
→ inf.*

SUCTION CURETTE "CANNULA"

Fig



Q. Uses ?

Suction evacuation of vesicular mole, missed abortion & septic abortion.

Q. Importance of the opening of handle ?

To switch on & off evacuation .

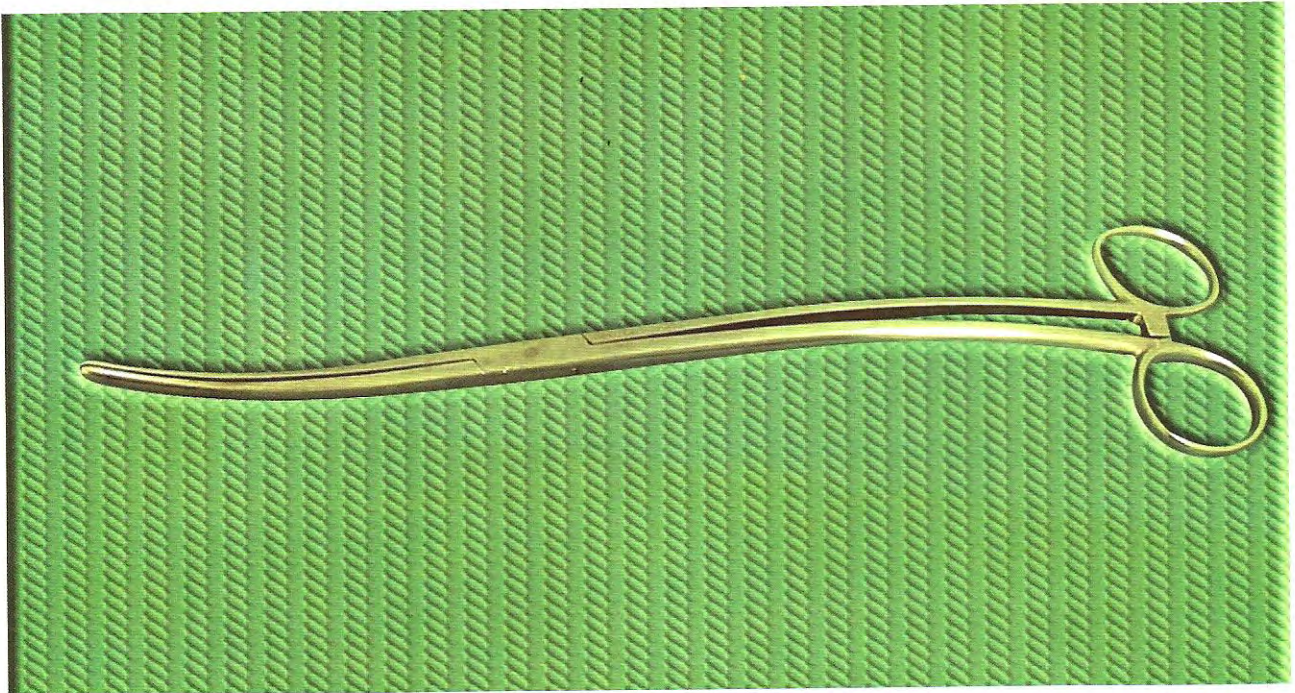
Q. Why handle can be rotated ?

To allow rotation of suction cannula without obstruction of tube connected to suction apparatus.

Q. What are the complications may occur ?

- Infection.
- Perforation .

BOZEMAN UTERINE PACKING FORCEPS



Q. Uses ?

- Control atonic post partum haemorrhage by packing with gauze (*old method*).
 - . 5 packs in uterus.
 - . 2 packs in vagina.
- Removable of mined IUD (*Blind exploration*).

Q. Why you pack the vagina ?

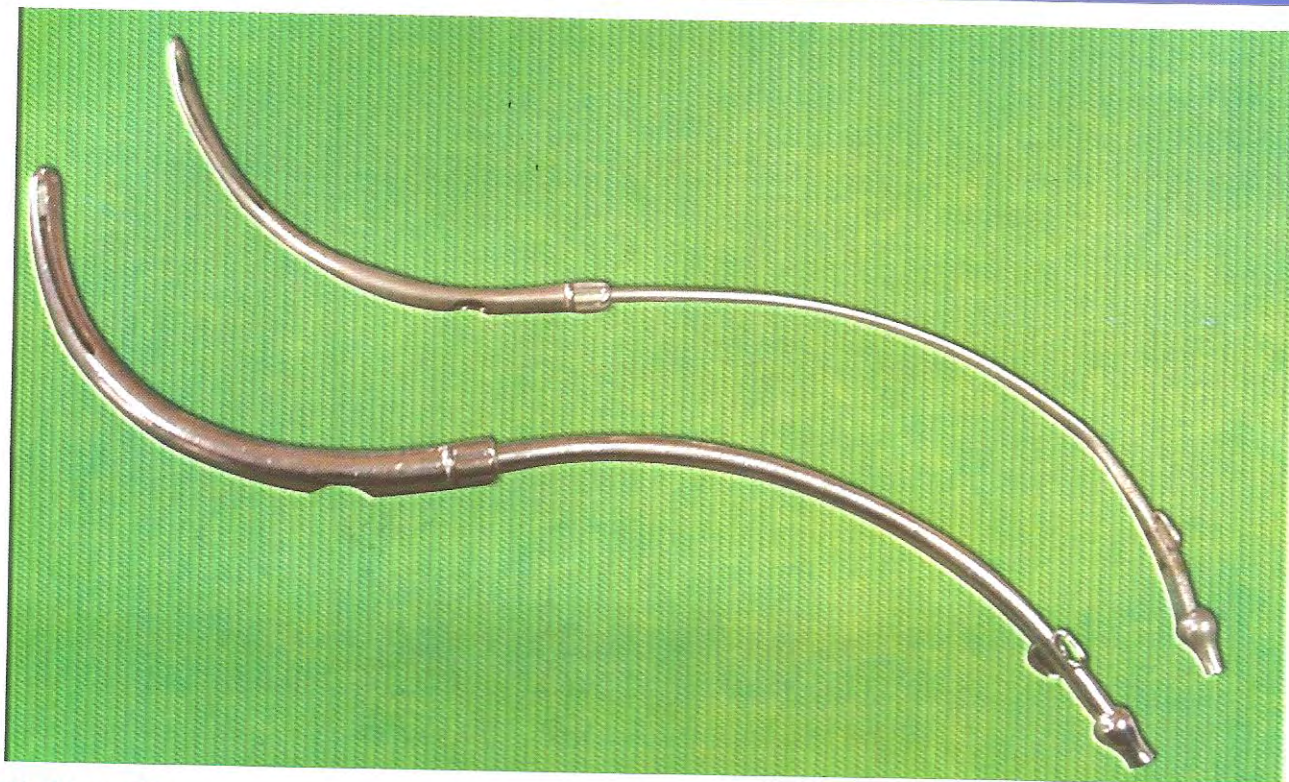
Kinking of uterine vessels to stop the bleeding.

Q. What are the complications may occur ?

- Infection.
- Perforation .

✓ 2013

BOZEMAN DOUBLE WAY CATHETER



Q. Uses ?

Intra-uterine douching in atonic post-partum haemorrhage.

Q. What's used for uterine douching ?

Detol 5% at 37°C.

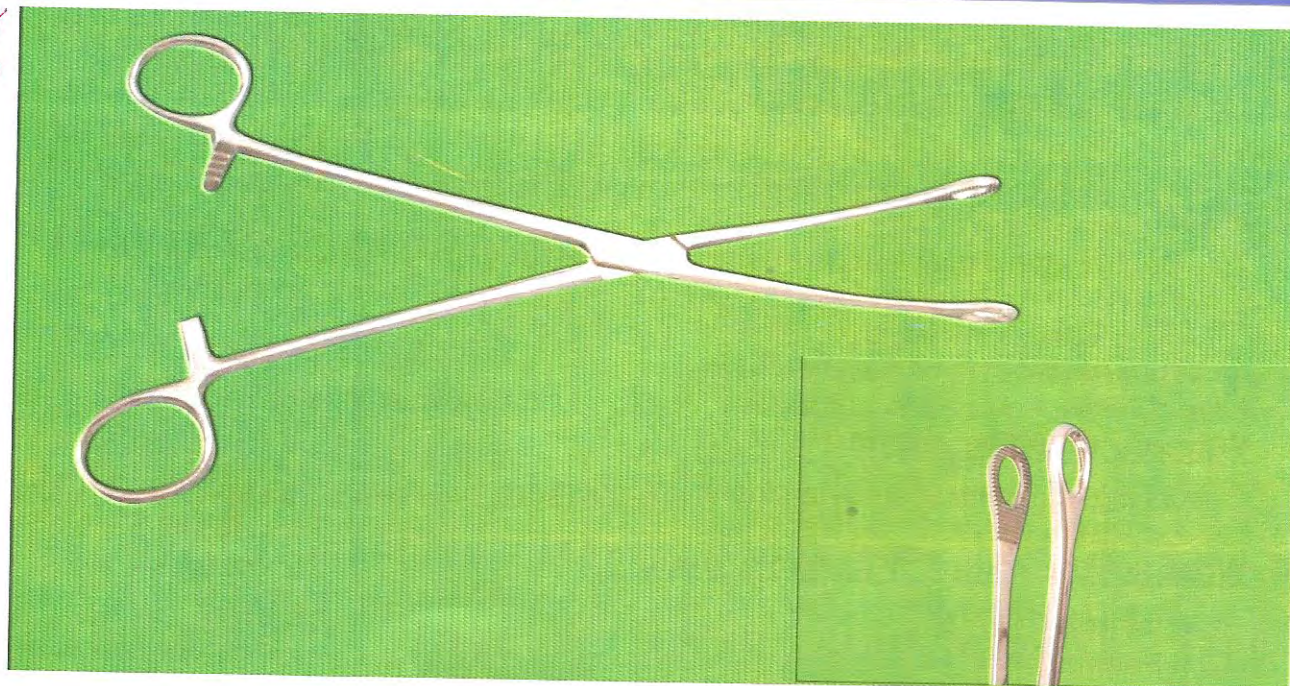
Q. Why it has an outer coat ?

For escape of fluid of douching & prevent uterine distention & so no tubal regurgitation.

حفظ

RING FORCEPS

حفظ
2013



Q. Why serrated ? Good grasp.

Q. Why there is a lock ? To be fixed at its site.

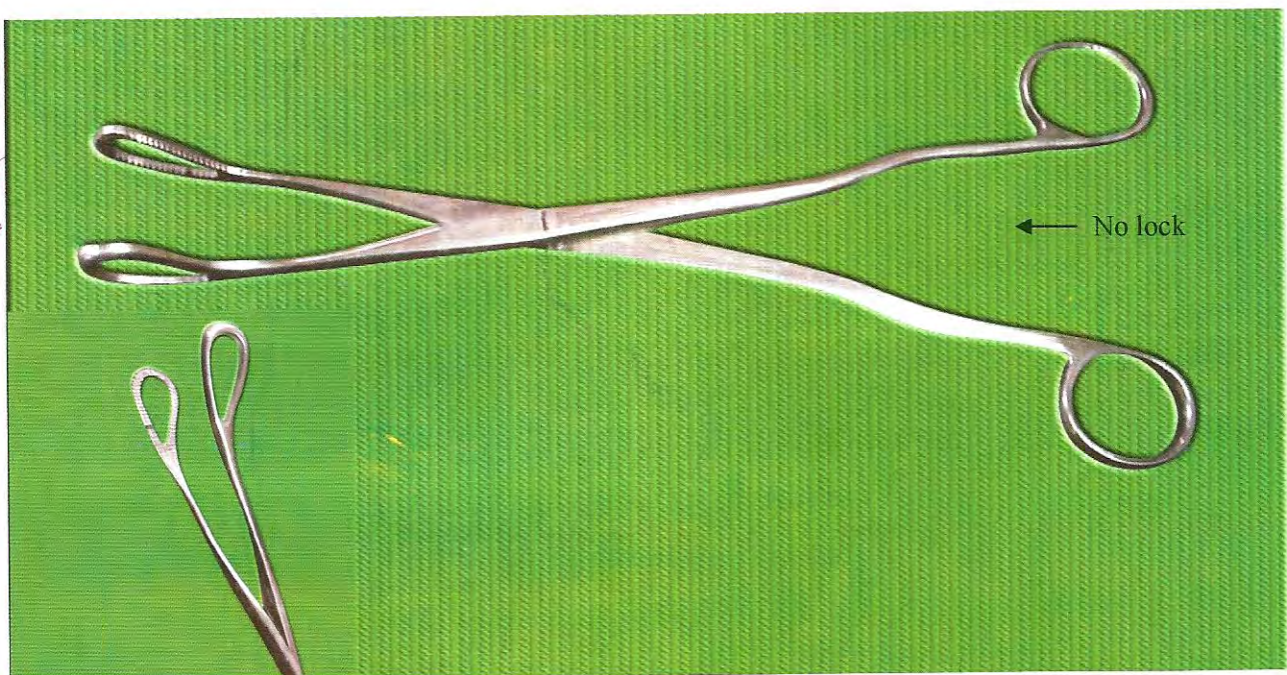
Q. Uses ?

- Grasp soft cervix (*pregnant cervix*) during :
 - Vaginal evacuation .
 - Exploration of cervix after vaginal delivery.
 - ★- Cerclage operation.
 - Repair of cervical laceration after delivery.
- Grasp infundibulo-pelvic ligament during myomectomy.
- ★• Polypectomy by twist.
- Huntington operation: abdominal treatment of uterine inversion.
- Instead of Green Arymtage in C.S.

Q. What are the complications may occur ?

- Infection.
- cervical laceration.

OVUM FORCEPS



Q. Uses ? Surgical vaginal evacuation of abortion (ovum).

Q. How to Use it ?

Introduce it in the uterine cavity closed, then open, grasp and rotate 90° then remove it & so on.

Q. Why you rotate 90° ?

- To detect contents that sometimes adherent to the uterine wall.
- You may grasp myometrium (*it will not rotate*).

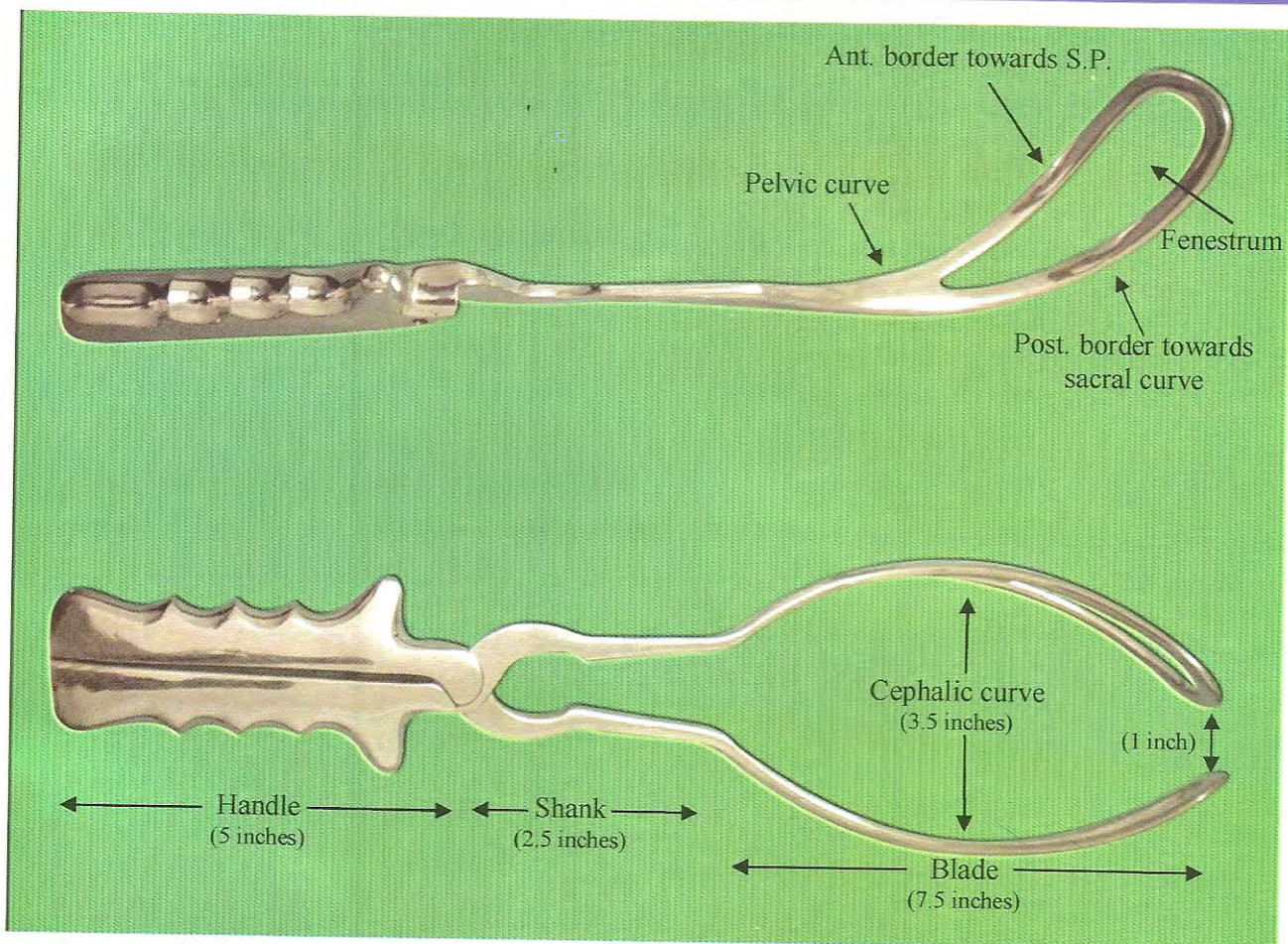
Q. Why there is no lock ?

- Because you introduce remove (*open & close*) several times.
- To avoid myometrial injury.

Q. What are the complications may occur ?

- Infection.
- Perforation.

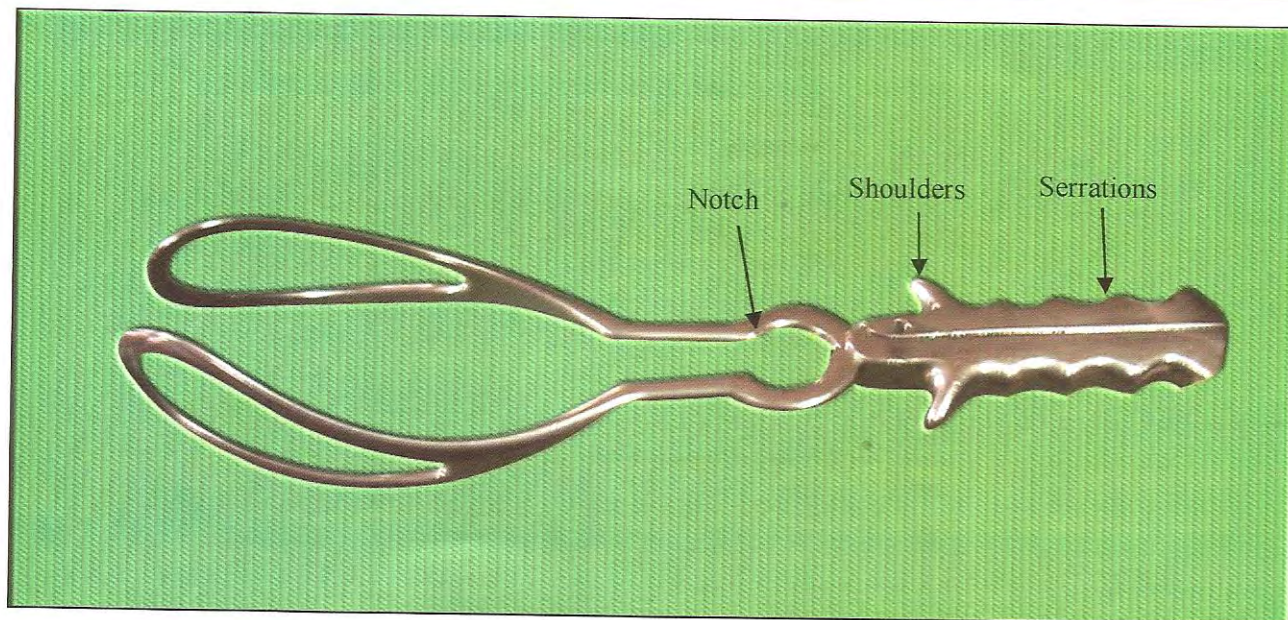
LONG OBSTETRIC FORCEPS



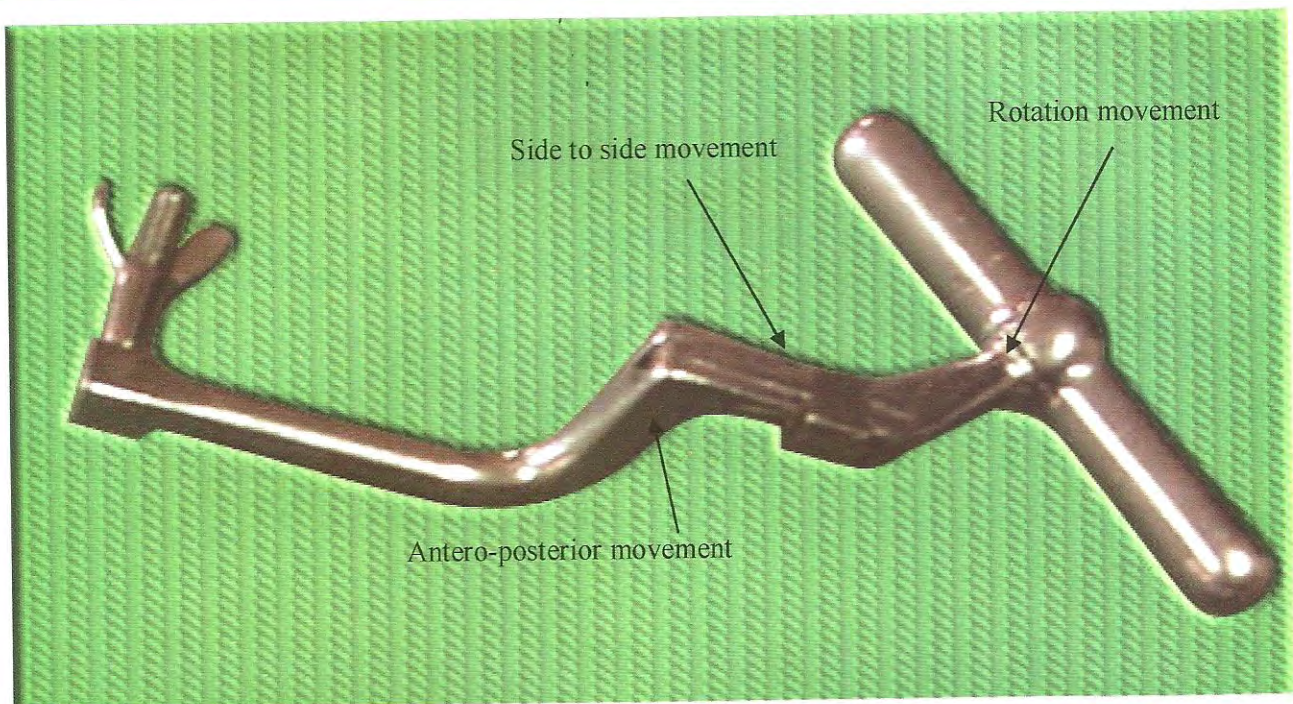
Q. How to identify right & left blade in curved forceps if single blade is given ?

1. Pelvic curve looks up wards.
2. Cephalic curve looks inwards.
3. Handle to your side.

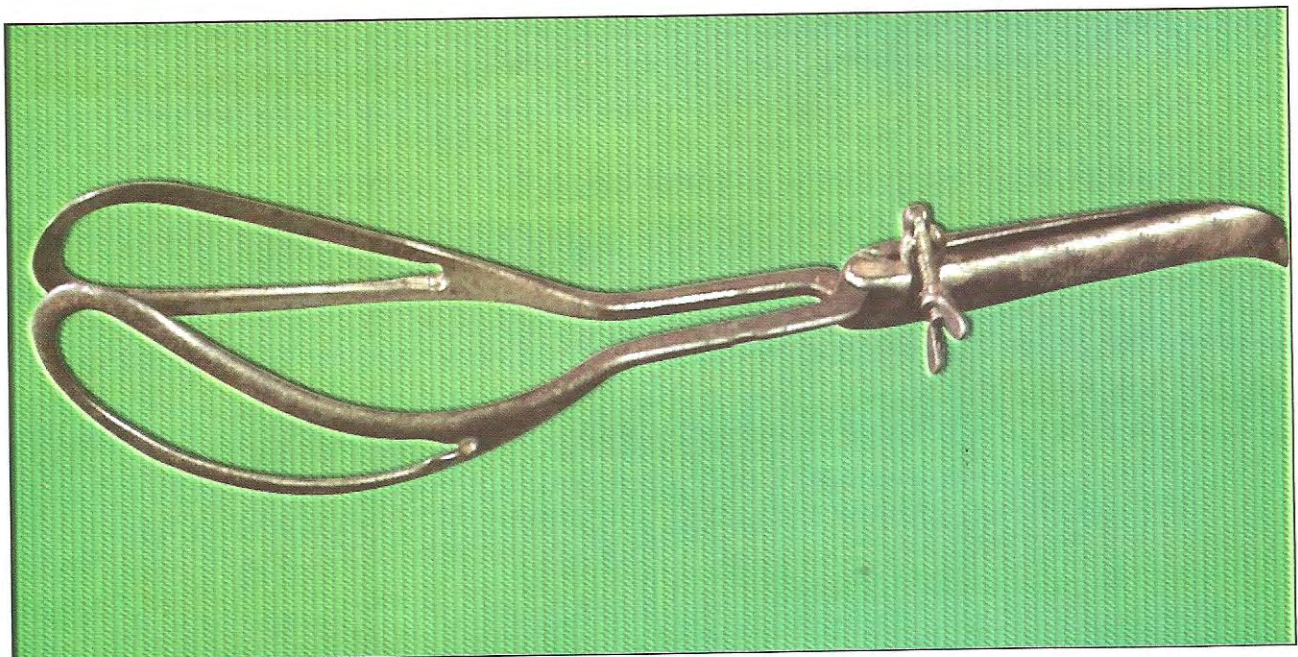
NEVILLE SIMPSON BARNES FORCEPS



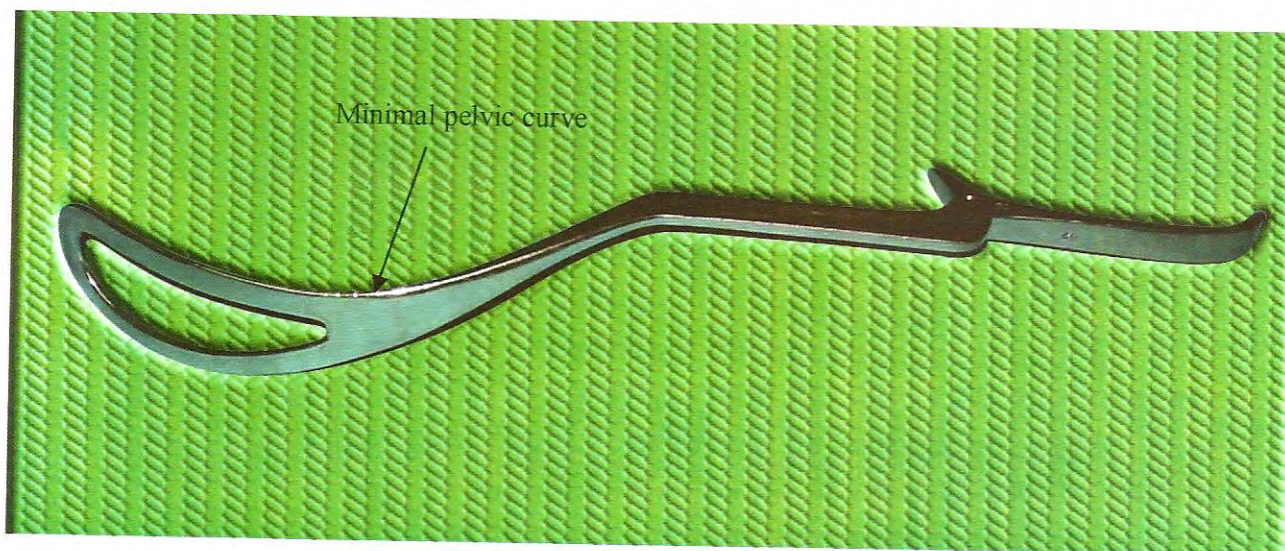
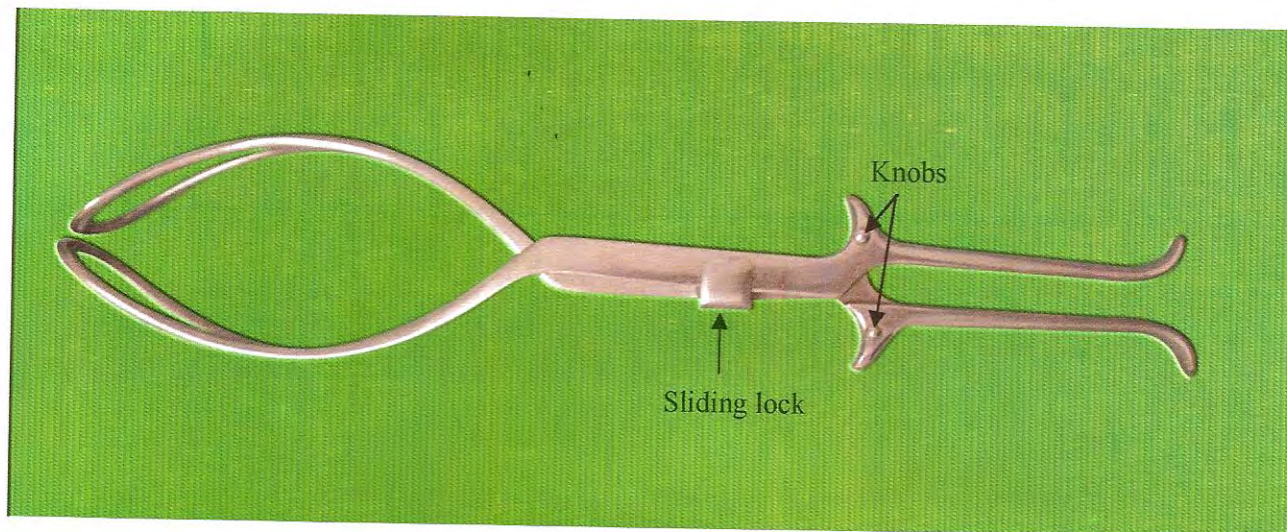
AXIS TRACTION PIECE OF NEVILLE SIMPSON BARNES FORCEPS



MILNE MURRAY'S FORCEPS WITH ITS AXIS TRACTION PIECE



KIELLAND OBSTETRIC FORCEPS



Q. Methods of application of the anterior blade ?

- Original Kielland's method (*dangerous*).
- Direct method.
- Wandering (American) method (*the best*).

Q. Method of application of the posterior blade ?

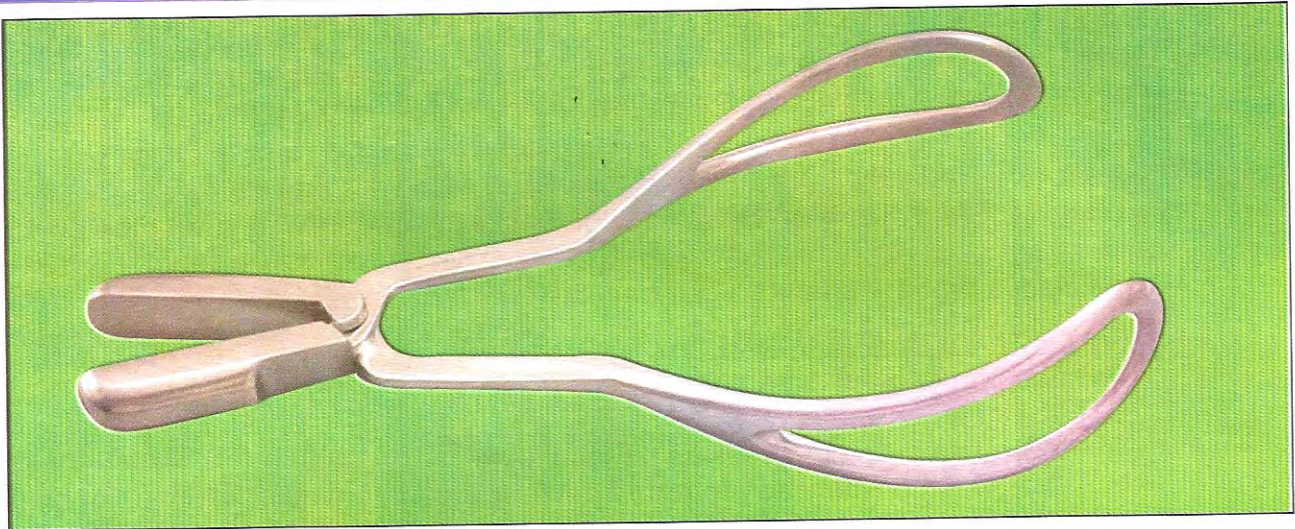
Direct application.

Q. What is criteria of Kielland obstetric forceps ?

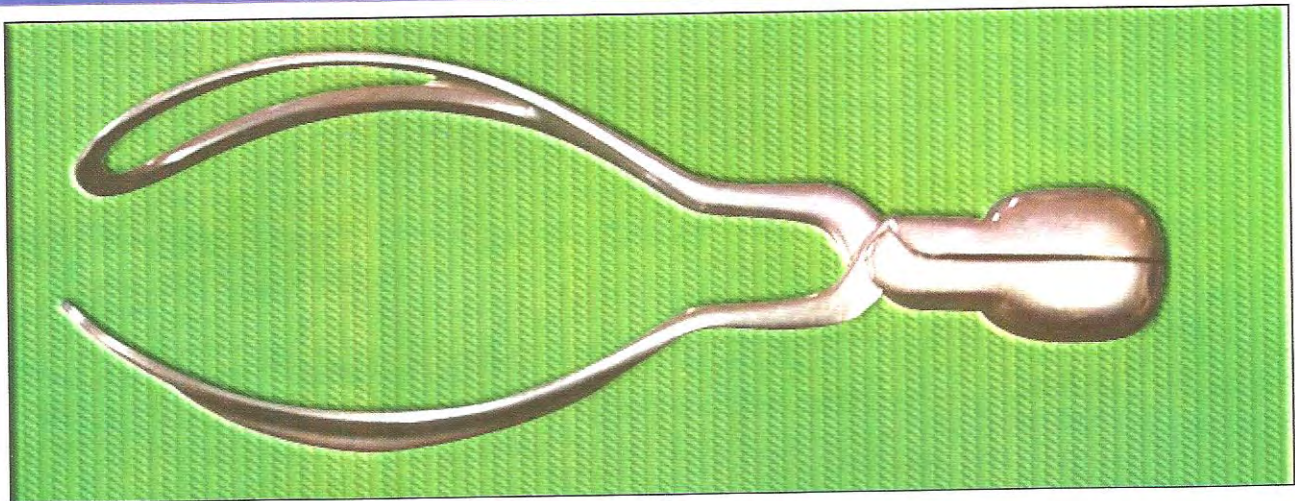
As long curved forceps but :

- It has minimal (or no) pelvic curve. So, it is a long straight forceps to allow rotation & extraction of fetal head in one application with less maternal trauma.
- The inner surfaces of blades are beveled to minimize injury to fetal head.
- It has a sliding lock to allow application on asynclitic head.
- Two knobs are present on handle and these 2 knobs should be directed towards the side of occiput during forceps application.

SHORT CURVED FORCEPS (WRIGLY'S FORCEPS)

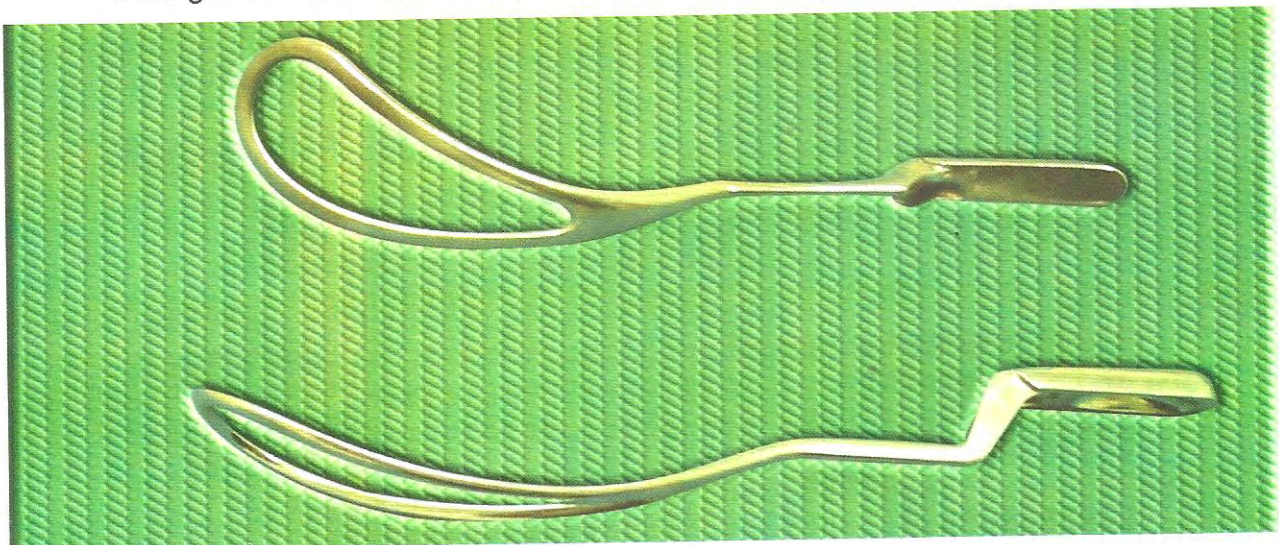


SHORT STRAIGHT FORCEPS (SIMPSON FORCEPS)



Q. Uses of short forceps?

- Outlet forceps.
- Low forceps.
- During C.S. : one blade is used to deliver head (vectis) from uterine incision.



OBSTETRIC FORCEPS

DEFINITION

It is an instrument, designed to assist the delivery of the baby's head.

DESCRIPTION

- Two blades "Stainless steel" cross each other like in scissors and lock at the point of crossing.
- Parts: blades proper - shank - lock - handle.
- I. The blade proper (7.5 inches) :
 - Blade proper is fenestrated because:
 1. Lighter in weight.
 2. To minimize compression on fetal head.
 3. Parietal eminences protrude from fenestration so, avoid slippage of blade.
 - Blade proper has cephalic curve to fit properly on head.
 - Blade proper has pelvic curve to:
 1. Maintain flexion of head during traction.
 2. Minimize injuries of maternal birth tract.
- II. The shank (2.5 inches) :

Between blade proper and handle to allow easy locking of blades outside the vagina So, decrease maternal birth tract injuries .
- III. The Lock : may be:
 1. Double slot (English type).
 2. Pivot & screw (French type).
 3. Combination of previous 2 types (German type).
 4. Sliding lock in kielland forceps only.
- IV. The handle (5 inches) :
 - Corrugated
 - Projecting shoulder to facilitate traction.

CLASSIFICATION

1. Short (10 inches) or long (15 inches).
2. Straight or curved
3. Classic or special.

ACTION

1. Traction (*the main action*):

Mild (*no force in forceps*), smooth, steady, interrupted with uterine contraction.
2. Rotation.
3. Delivery of the fetal head during Cesarean section.

INDICATIONS

1. Maternal: maternal distress.
2. Fetal: fetal distress.
3. Prolonged second stage:
 - Causes in the passage: e.g. mild degree cephalopelvic disproportion.
 - Cases in the power: e.g. inertia (*no bearing down*).
 - Causes in the passenger: e.g. after coming head of breech.

CONDITIONS TO BE FULL-FILLED BEFORE FORCEPS APPLICATION

1. Anaesthesia :
 - General anaesthesia.
 - Pudendal nerve block.
 - Low spinal.
 - Epidural.
2. Bladder and rectum evacuation:
 - Full bladder may lead to fistula, failed forceps, atonic post partum haemorrhage.
 - Full rectum may lead to soiling of field, difficult extraction.
3. Complete asepsis.
4. The patient is in lithotomy position.
5. Contracted pelvis is excluded.
6. Cervix should be fully dilated.
7. There must be adequate uterine contractions.
8. Suitable presentation as occipito-anterior, occipito-posterior or after coming head of breech. *كتاب القصر !! Face + MCO*
9. Head must be engaged.
10. Membranes must be ruptured.

CONTRA-INDICATION

The reverse of the fulfillments. *كله ما عاير رقم 4*

Advantage of forceps

① Applied on after coming of and face

TYPES OF FORCEPS OPERATIONS

1. High forceps: before engagement.
2. Mid forceps: station zero.
3. Low forceps: station +1, +2 (Wrigley's forceps).
4. Outlet forceps: station +3.

- ② Dead fetus
- ③ fetal distress
- ④ premature

TIME OF OUTLET APPLICATION

1. Scalp is visible at the introitus without separation of the labia.
2. The sagittal suture is in the antero-posterior diameter.
3. Skull distends the vulva.

TYPES OF FORCEPS APPLICATION

1. Cephalic application.
2. Pelvic application.
3. Cephalo-pelvic application.

N.B. Angle of error: is defined as the angle between the obstetric axis (the line of head traction) and direction of forceps traction .

Q: How to correct the angle of error ?

- Axis traction piece .
- Pajot's maneuver: Downwards pressure on the shank (left hand) & pulling on handle (right hand).

TRIAL FORCEPS

- In border line cases of cephalo-pelvic disproportion it may be difficult to know whether vaginal delivery is possible or not, so we prepare forceps and C.S.
- Under general anaesthesia, apply the forceps with a single mild traction,
 - If the head progress downward, we continue with the forceps.
 - If this doesn't occur, C.S. is done.

FAILED FORCEPS

- **Definition** : Failure to deliver the head by the forceps after repeated and persistent attempts.
- **Causes**:
 1. Undiagnosed contracted pelvis .
 2. Un-rotated head as in occipitoposterior (*which is common*).
 3. Un-recognized, un-dilated cervix.
 4. Constriction ring.
 5. Pelvic tumour.
 6. Hydrocephalus.
- **Management**:
 - Immediate Cesarean section as there is fetal distress.
 - It should be followed by examination of genital tract under general anaesthesia .

CATASTROPHIC FORCEPS

Forceps delivery with major fetal or maternal complication or both.

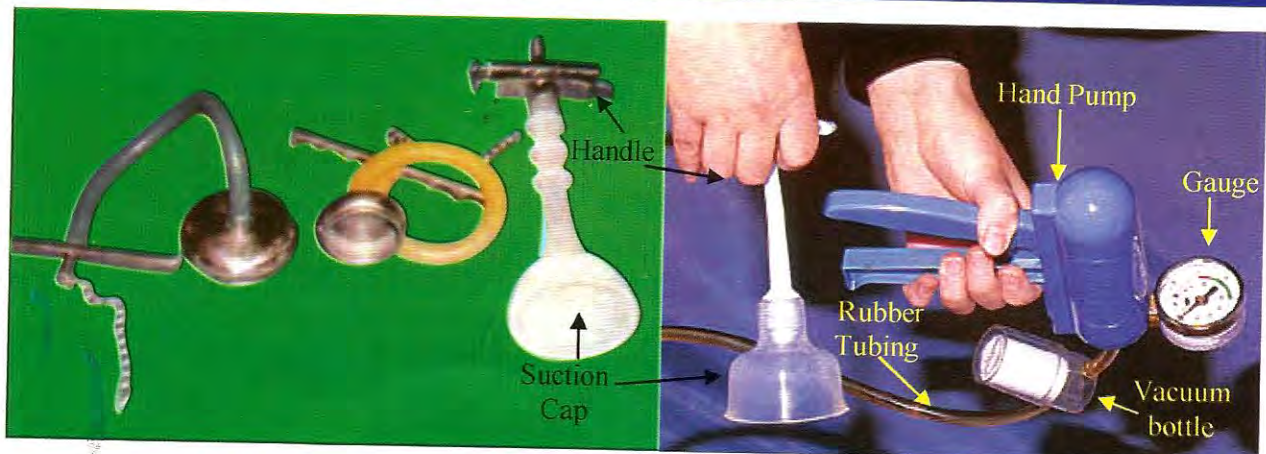
PROPHYLACTIC FORCEPS (Delee)

The use of outlet forceps and episiotomy to reduce maternal stress by shortening the 2nd stage of labour.

COMPLICATIONS OF FORCEPS & Ventouse

	Maternal	Fetal
Haemorrhage	- Traumatic post-partum haemorrhage. - Perineal, vulval, vaginal ,cervical lacerations.	Intra-cranial haemorrhage. - Scalp bruises . - Cephalhematoma.
Injury	- Rupture uterus. - Bladder and rectal injury with subsequent fistula. - Pelvic joints and nerves injury.	- Fracture skull . - Facial nerve injury.
Infection	- Puerperal sepsis. - Secondary post-partum haemorrhage . - Subinvolution of the uterus. - Sheehan syndrome .	Intra-uterine infection.
Remote	- Prolapse and stress incontinence. - Isthmic incompetence with subsequent habitual abortion. - P.I.D. (<i>pelvic inflammatory disease</i>).	Cerebral palsy . & in Ventouse → ↓ IQ ☹️

THE VENTOUSE (VACUUM EXTRACTOR)



Indications of ventouse

1. Maternal: maternal distress.
2. In the 1st stage of labour ($\geq 8\text{cm}$)
3. Prolonged second stage:
 - Causes in the passage: e.g. mild degree CPD.
 - Cases in the power: e.g. inertia (*no bearing down*).
 - Causes in the passenger: e.g. after coming head of breech.

Conditions to be full-filled before ventouse application

1. Anaesthesia: No or Local anaesthesia.
2. Bladder and rectum evacuation.
3. Complete asepsis.
4. The patient is in lithotomy position.
5. Contracted pelvis is excluded.
6. Cervix, at least $\geq 8\text{cm}$.
7. There must be adequate uterine contractions.
8. Suitable presentation as occipito-anterior, occipito-posterior.

9. Head well applied on surface but not engaged + no distress
10. Rupture memb.
lining
no premature

Contraindications of ventouse

1. After-coming head of breech.
2. Premature (I.C.Hge.).
3. Cephalo-pelvic disproportion.
4. Distress of the fetus.
5. Face presentation.

Rules for ventouse

- No more than 3 pulls to deliver the head completely within 15-20 minutes (never more) & the head must descend with the 1st pull.
- If there is slippage of the cup, it can be re-applied once (not more)

Failed ventouse

➤ Definition:

Failure to deliver the head by the ventouse after 3 pulls.

➤ Causes:

1. Undiagnosed contracted pelvis.
2. Asynclitism.
3. Constriction ring.
4. Pelvic tumour.
5. Hydrocephalus.
6. Technical errors as leak, wrong cup application, pulling in between contractions ...etc.

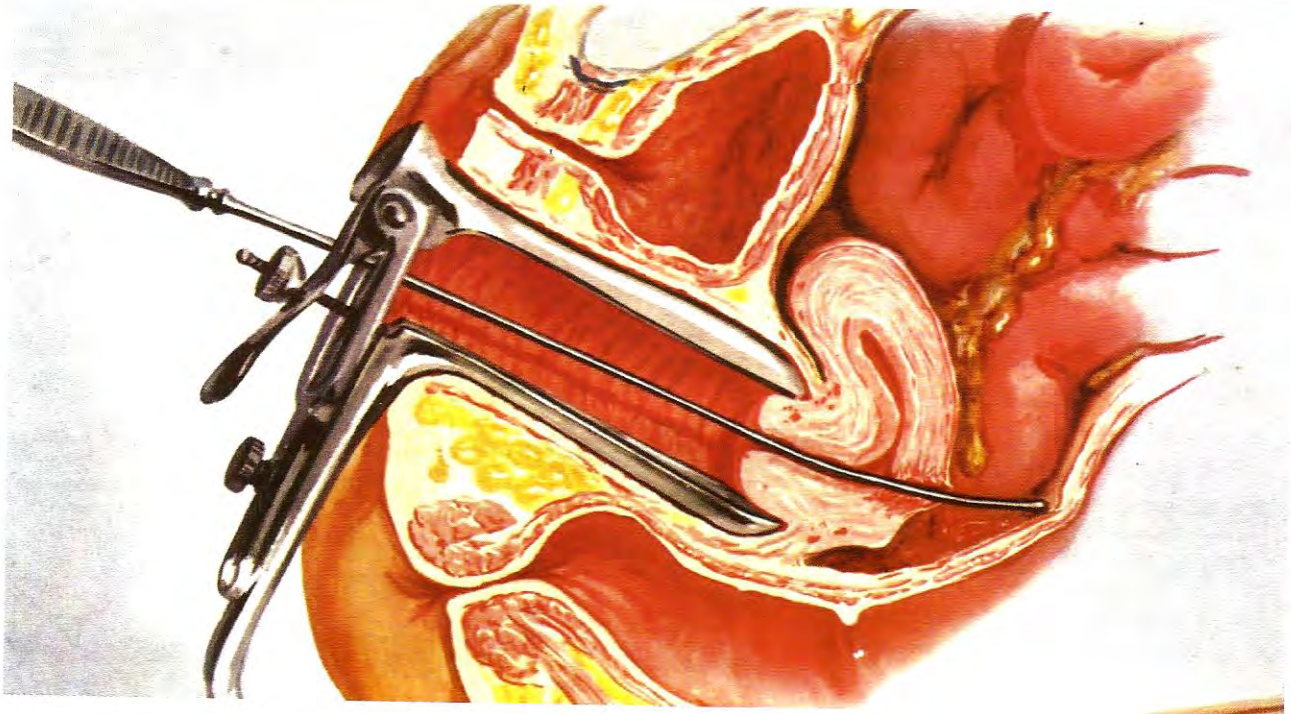
Advantage of ventouse over forceps

- Can be used with local anaesthesia or even without anaesthesia.
- Can be used before full cervical dilatation.
- ★ Can be used for rotation and traction in single application. + *promote flexion*
- ★ Less traumatic to mother.
- Less traumatic to fetal head.
- ★ No excessive force on traction (as slipped on using force).
- No special skill is needed.

Disadvantages and complication of ventouse

- Cephalhematoma.
- Small ulcers and bruises of fetal scalp.
- Intra-cranial haemorrhage.
- The Cx. & vagina may be injured if included under the cup during application.
- Remote complication of mother: (if used in case of incomplete cervical dilatation), may develop later on prolapse or cervical Incompetence.

PERFORATION



INSTRUMENTS WITH HIGH POSSIBILITY OF PERFORATION

- Sound.
- Dilators.
- Ovum forceps.
- Hysteroscopy.
- Curettes.

PREDISPOSING FACTORS

- Lack of surgical experience.
- Soft uterus e.g. pregnancy, infection, malignancy... etc.
- Acute AVF or RVF uterus.

MECHANISM OF PERFORATION

Introduction of instrument > uterine length or wrong direction.

PERFORATION IS SUSPECTED BY

- Introduction of a length of the instrument > uterine length.
- Sudden gush of blood or excess bleeding.
- Sudden release of resistance.

COMMON SITES OF PERFORATION

- Fundus of the uterus.
- Posterior isthmus (in case of AVF uterus).
- Anterior isthmus (in case of RVF uterus).

TREATMENT OF PERFORATION (*Laparoscopy is done to see the size of perforation*)

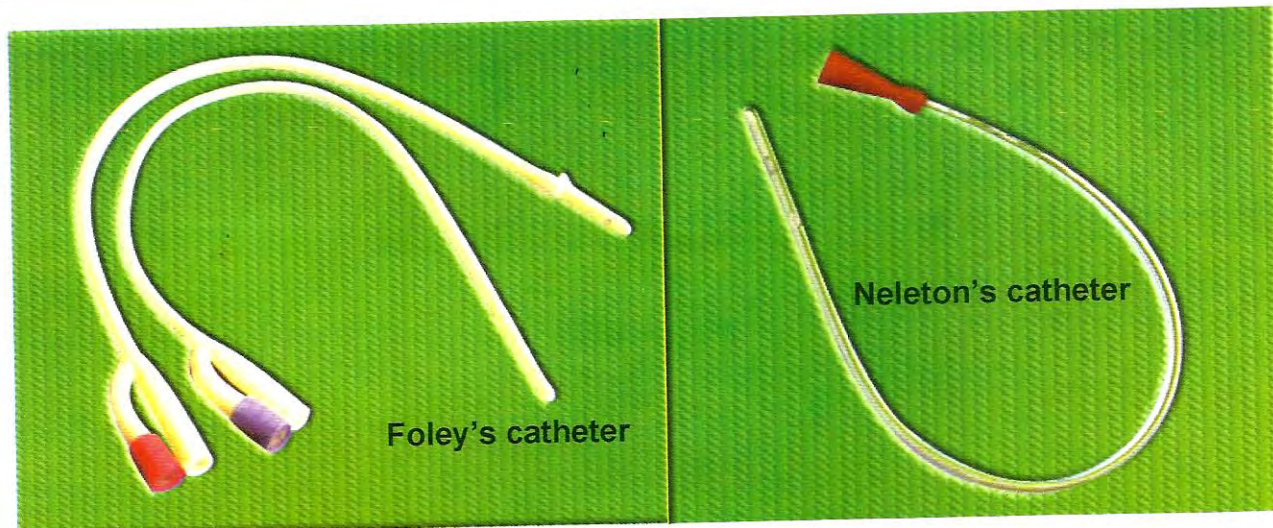
• Small perforation:

- Repair or continue the procedure under laparoscopic guide.
- Observation for 24 hours.
- The patient is given a report about the perforation (*should be delivered by S.C. in the next pregnancies*).

• Extensive perforation with bleeding: immediate laparotomy:

- If the patient is young: repair the perforation as possible but if it is difficult hysterectomy is recommended.
- If the patient is old : hysterectomy is done.

URINARY CATHETERIZATION



TYPES

1. Metal catheter: straight or curved (S-shaped).
2. Disposable rubber catheter : Neleton's catheter.
3. Self retaining catheter: Foley's.
4. Self retaining rubber catheter for supra-pubic drainage.
5. Ureteric catheters

PRECAUTIONS Introduce under complete aseptic conditions.

DANGERS Infection, injury (in cases of metal catheter).

INDICATIONS

A. Prophylactic

- Pre-operative.
- Post-operative : after fistula repair or stress incontinence .
- During 2nd or 3rd stage ?
(to avoid instrumental injury , to avoid post-partum haemorrhage).

B. Diagnostic:

- Methylin blue test .
- Click test .
- To know the lower limit of bladder during anterior repair or cerclage.

C. Therapeutic:

- Acute retention of urine.
- Small injury in bladder.

OTHER BOOKS:

Illustrated gynecology

Illustrated obstetrics

Gynecology & obstetrics museum

Gynecology & obstetrics history taking

Gynecology & obstetrics MCQ (key points)

Gynecology & obstetrics MCQ

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